

FIG. I

#### EXAMPLE 1 (PARALLEL DIRECTION)

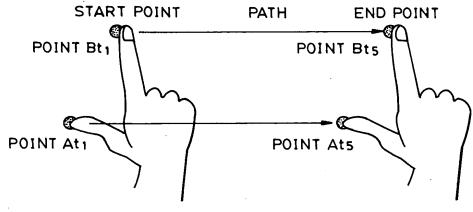


FIG. 2A

## **EXAMPLE 2 (INWARD DIRECTION)**

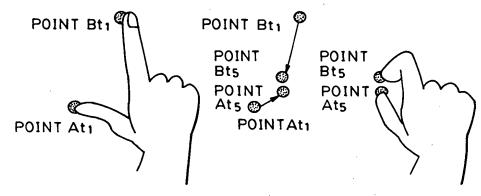


FIG. 2B

## EXAMPLE 3 (OUTWARD DIRECTION)

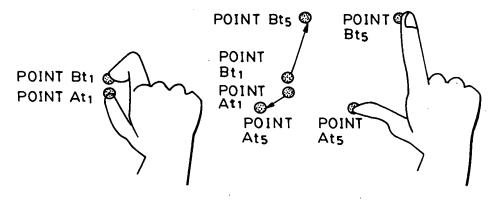


FIG. 2C

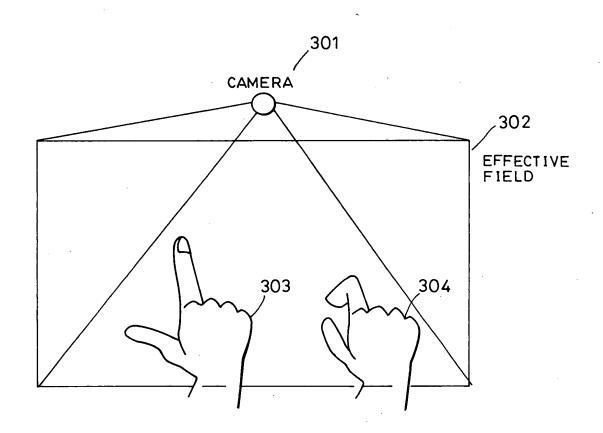


FIG. 3

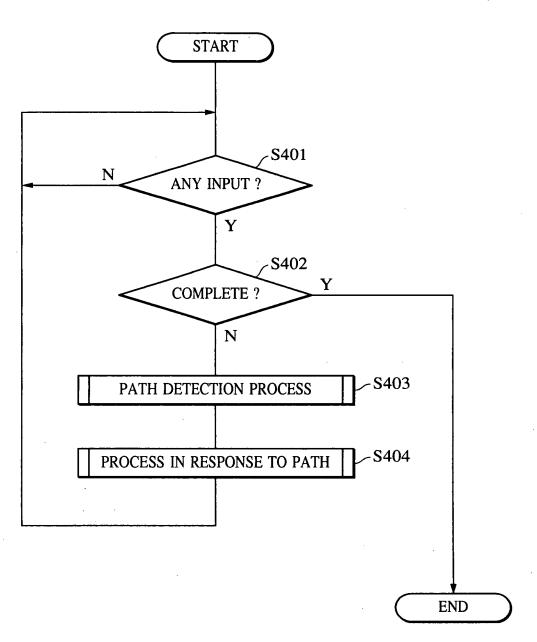


FIG. 4

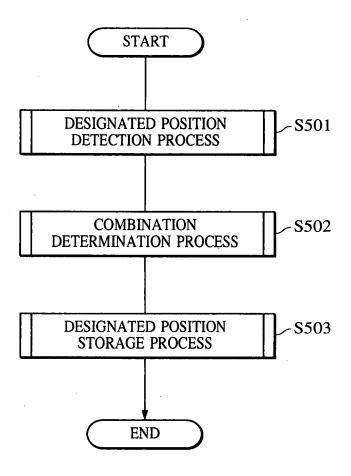


FIG. 5

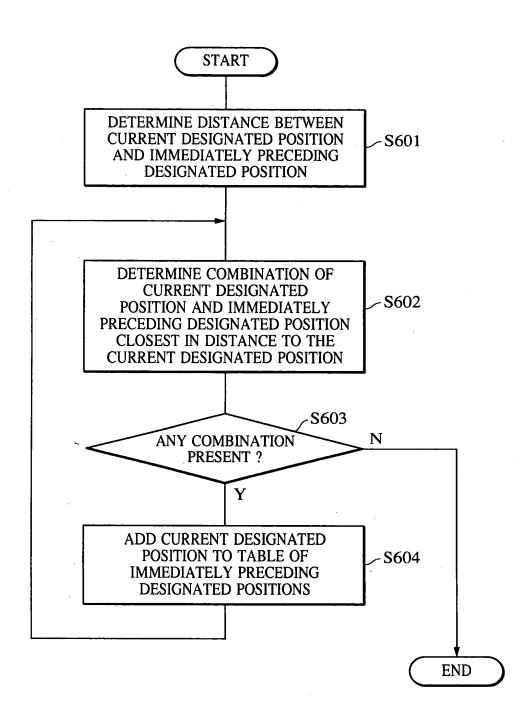
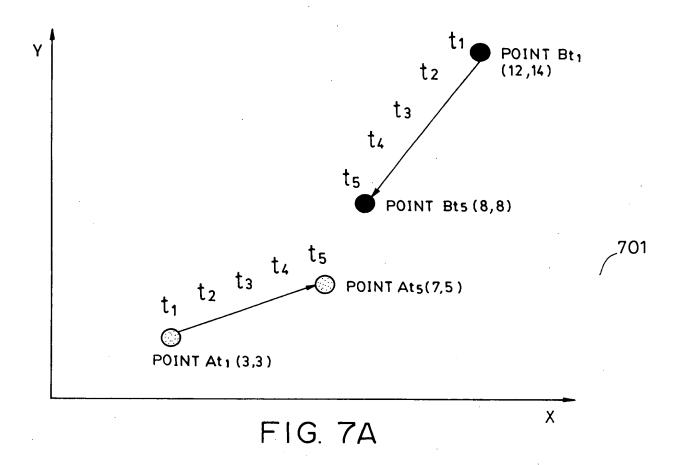


FIG. 6



## TABLE STORING POSITION DATA

POSITION COORDINATE DATA AT POINT A

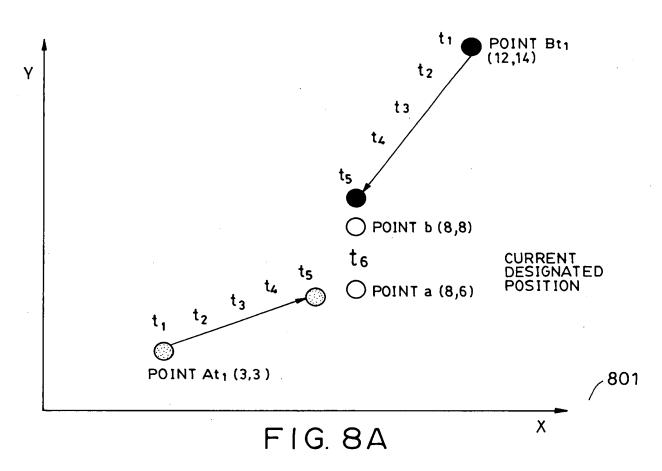
	Х	Υ -	702
tı	3	3	702
t <sub>2</sub>	4	3.5	
t3	5	4	
t4	6	4.5	
ts.	7	5	

FIG. 7B

POSITION COORDINATE DATA AT POINT B

	X	Υ	703
tı	12	14	/03
t <sub>2</sub>	11	12.5	
t3	10	11	
t4	9	10	
t <sub>5</sub>	8	9	

FIG. 7C



## CURRENT DESIGNATED POSITION DATA (AT t6)

	X	Y	802
а	8	(	5
Ь	8	-	3

F1G. 8B

**CURRENT DESIGNATED** POSITION DATA

		<b>90</b> 1
	X	Y
a	8	6
b	8	8

FIG. 9A



DISTANCE TO IMMEDIATELY PRECEDING DESIGNATED POSITION

\_902

\_904

	Х	Y	DISTANCE TO DESIGNATED POSITION A	DISTANCE TO DESIGNATED POSITION B
a	8	6	1.414	4.123
b	8	8	3.601	1.000

FIG. 9B





DESIGNATED POSITION DATA AT EACH TIME POINT

903

	X	Y
t <sub>1</sub>	3	3
t <sub>2</sub>	4	3.5
t <sub>3</sub>	5	4
t4	6	4.5
t <sub>5</sub>	7	5
t <sub>6</sub>	. 8	6

	X	Y
$t_1$	12	14
t <sub>2</sub>	11	12.5
t <sub>3</sub>	10	11
t <sub>4</sub>	9	10
t <sub>5</sub>	8	9
t <sub>6</sub>	8	8

FIG. 9C

FIG. 9D

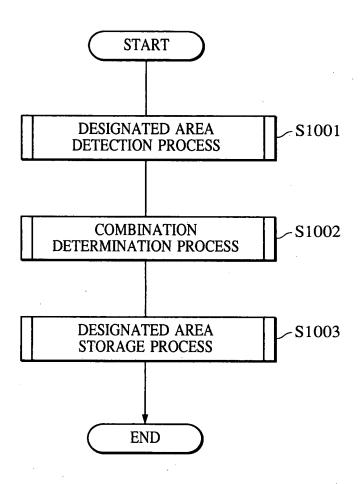


FIG. 10

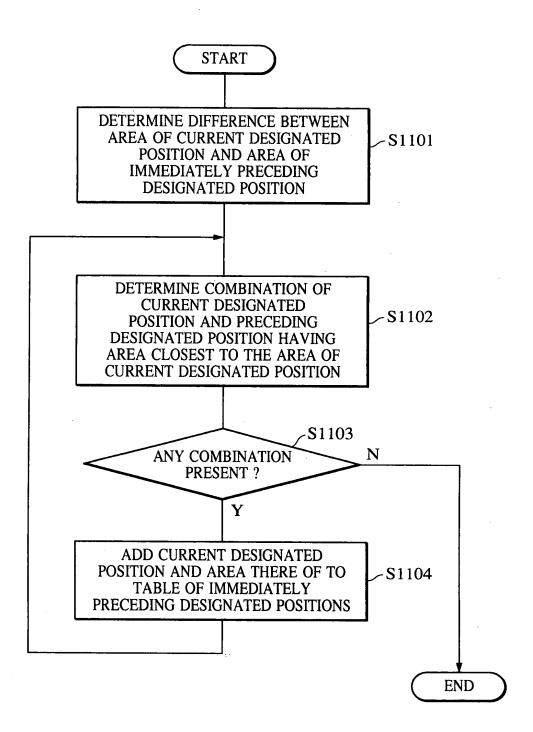
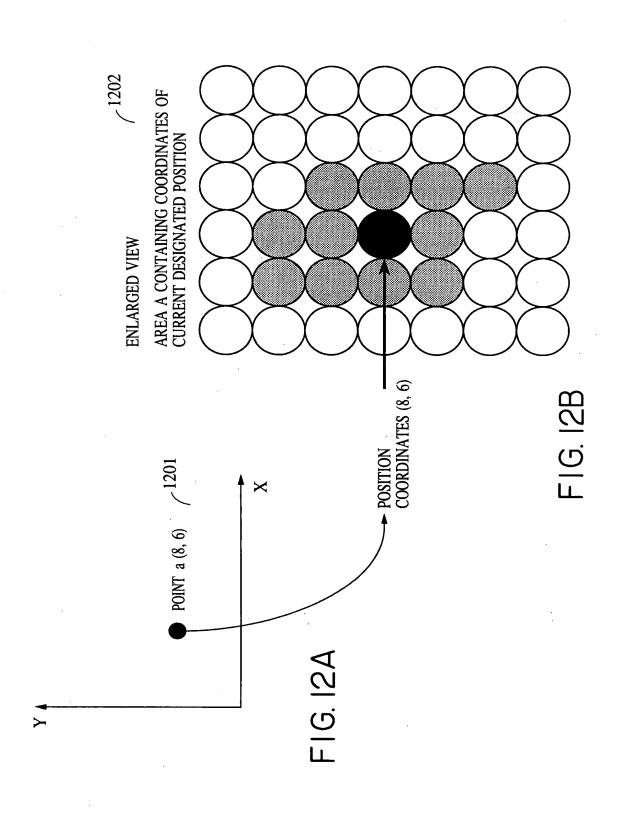
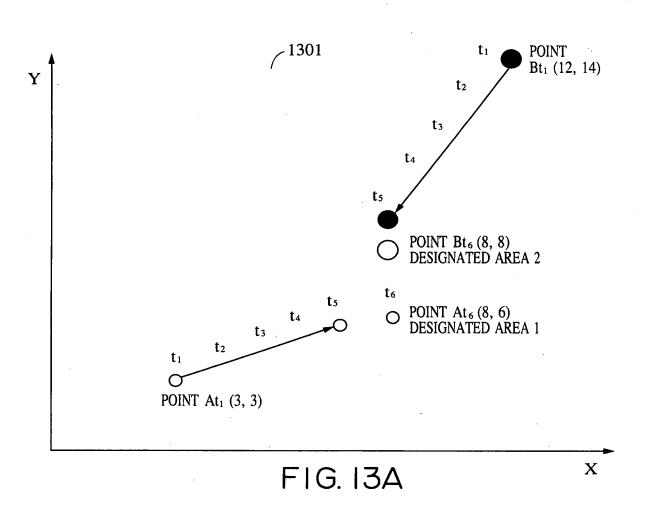


FIG. 11





## TABLES STORING DESIGNATED AREA DATA

AREA	DATA	AT :	POINT .	Α
------	------	------	---------	---

/13

	X	Y	AREA
t <sub>1</sub>	3	3	12.5
t <sub>2</sub>	4	3.5	12.2
t <sub>3</sub>	5	4	12.5
t <sub>4</sub>	6	4.5	12.0
t <sub>5</sub>	7	5	11.0

FIG. 13B

AREA DATA AT POINT B

1303

	X	Y	AREA
$t_1$	12	14	19.5
$t_2$	11	12.5	19.5
t <sub>3</sub>	10	11	20.0
t <sub>4</sub>	9	10	20.0
t <sub>5</sub>	8	9	20.0

FIG. 13C

## CURRENT DESIGNATED AREA DATA (AT t<sub>6</sub>)

1304

	X	Y	AREA
a	8	6	11.5
b	8	8	20.0

FIG. 13D



<del>/1401</del>

	X	Y	AREA
a	. 8	6	11.5
b	8	8	20.0

FIG. 14A

\_1402

# DIFFERENCE BETWEEN CURRENT AND IMMEDIATELY PRECEDING DESIGNATED AREAS

	X	Y	AREA	DIFFERENCE FROM DESIGNATED AREA A	DIFFERENCE FROM DESIGNATED AREA B
a	8	6	11.5	0.5	9.0
b	8	8	20.0	9.0	0.5

FIG. 14B





## TABLES STORING DESIGNATED AREA DATA

<sub>/</sub>1403

- 140	4
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	X	Y	AREA
$t_1$	3	3	12.5
t <sub>2</sub>	4	3.5	12.2
t <sub>3</sub>	5	4	12.5
t <sub>4</sub>	6	4.5	12.0
t <sub>5</sub>	7	5	11.0
t <sub>6</sub>	8	6	11.5

	X	Y	AREA
$t_1$	12	14	19.5
t <sub>2</sub>	11	12.5	19.5
t <sub>3</sub>	10	11	20.0
t <sub>4</sub>	9	10	20.0
t <sub>5</sub>	8	9	20.0
t <sub>6</sub>	8	8	20.5

FIG. 14C

FIG. 14D

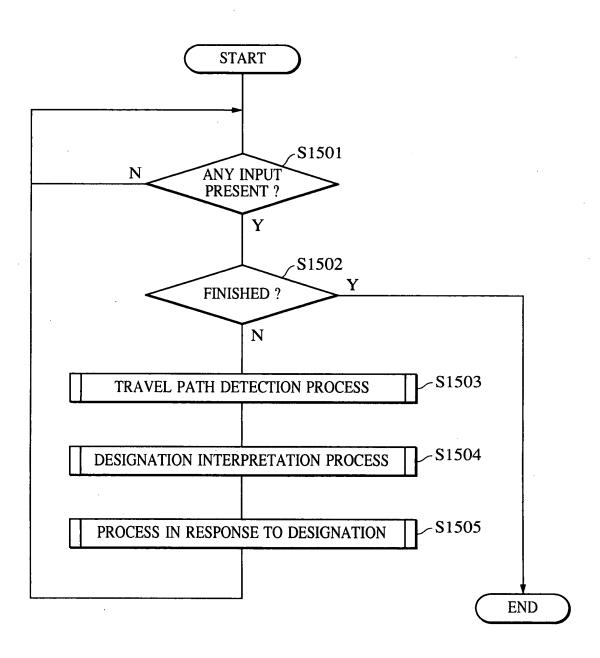


FIG. 15

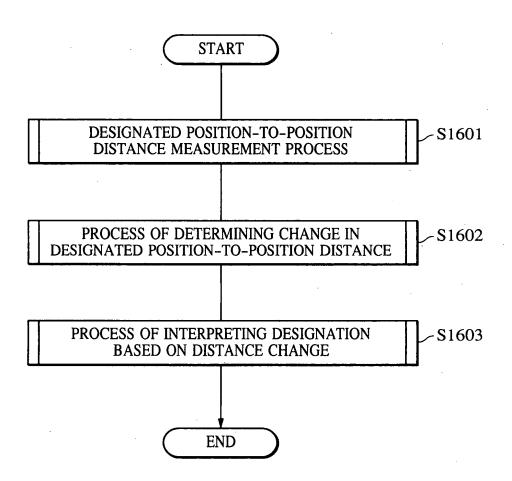


FIG. 16

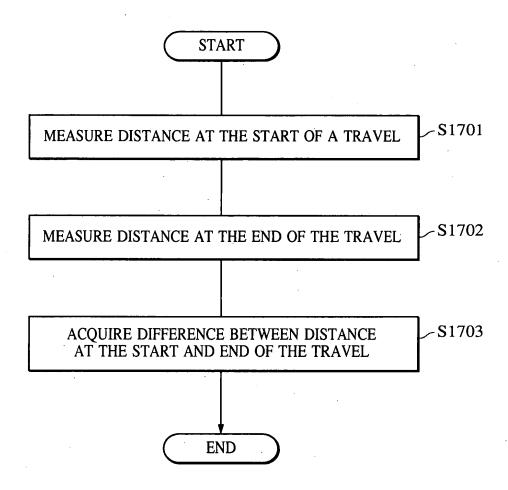


FIG. 17

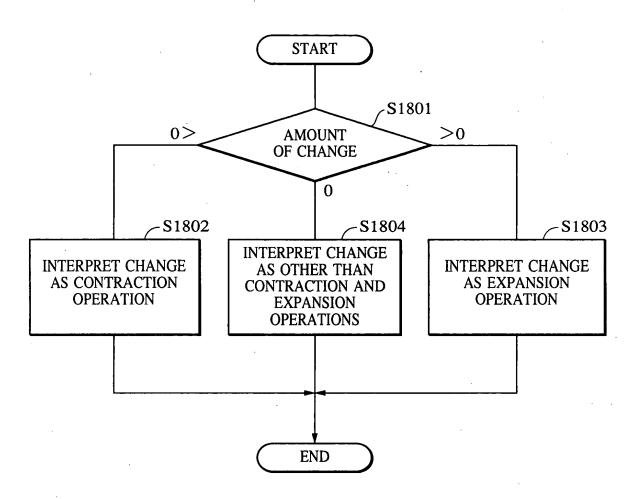
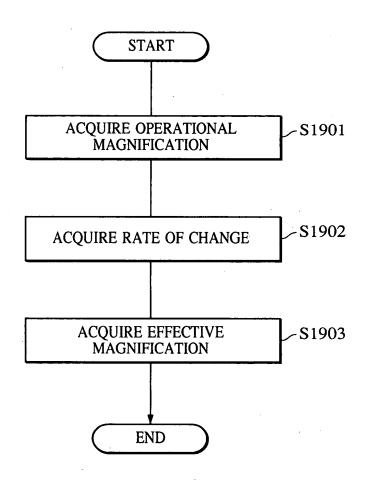


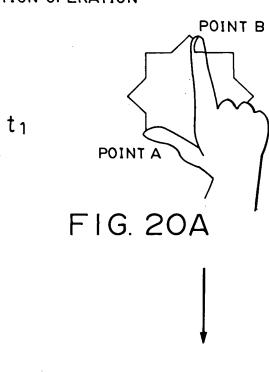
FIG. 18



EFFECTIVE MAGNIFICATION = 100-(100-OPERATIONAL MAGNIFICATION)  $\times$  RAGE OF CHANGE  $\alpha$ 

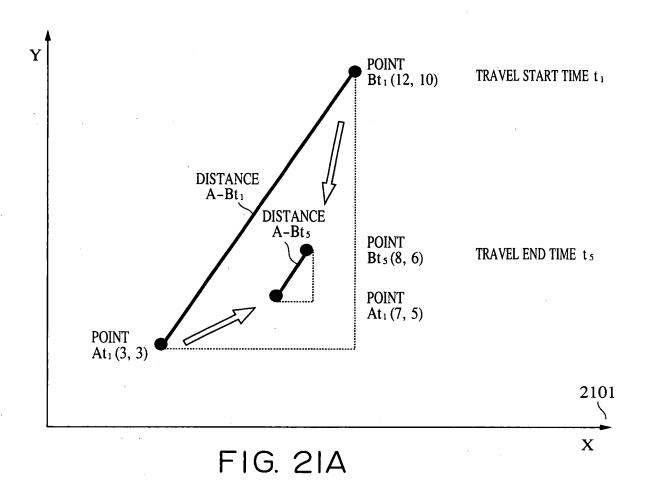
FIG. 19

## CONTRACTION OPERATION



t<sub>n</sub> Point B' Point A'

FIG. 20B



# DISTANCE BETWEEN DESIGNATED POSITIONS A AND B, AND AMOUNT OF CHANGE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>1</sub> )	·
t <sub>1</sub>	15.000	100%	1
t <sub>2</sub>	11.011	73%	<sub>~2102</sub>
t <sub>3</sub>	7.810	52%	]
t <sub>4</sub>	3.905	26%	]
t <sub>5</sub>	1.118	7%	

FIG. 21B

## **EXPANSION OPERATION**

t<sub>1</sub>

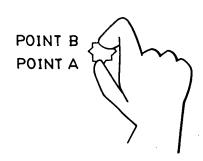


FIG. 22A



tn

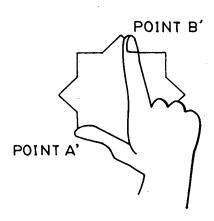
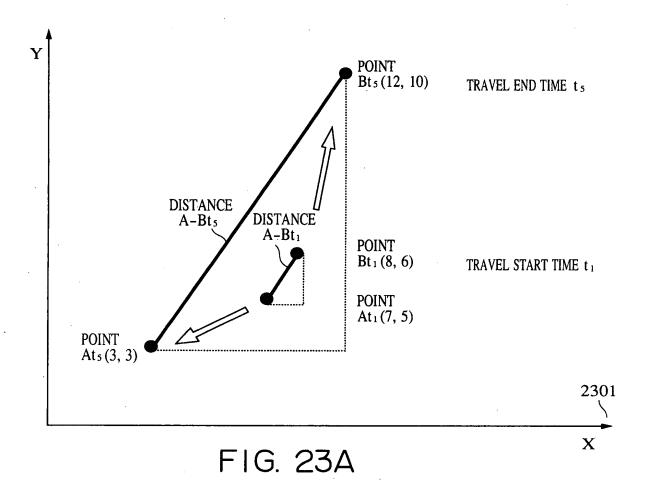


FIG. 22B



# DISTANCE BETWEEN DESIGNATED POSITIONS A AND B, AND AMOUNT OF CHANGE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>n</sub> /DISTANCE t <sub>1</sub> )	2302
$t_1$	1.118	100%	2302
t <sub>2</sub>	4.081	365%	1
t <sub>3</sub>	7.080	633%	1
t <sub>4</sub>	9.552	854%	]
t <sub>5</sub>	11.402	. 1020%	]

FIG. 23B

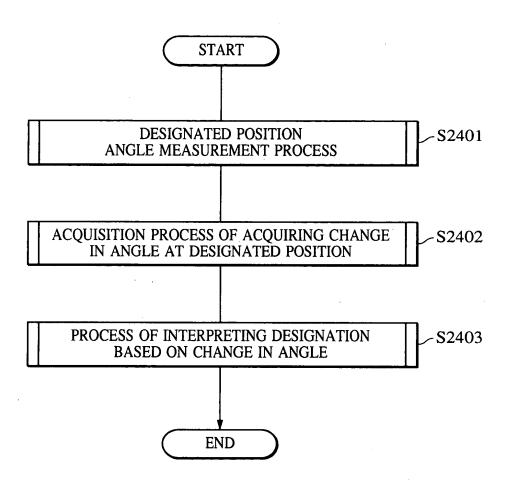


FIG. 24

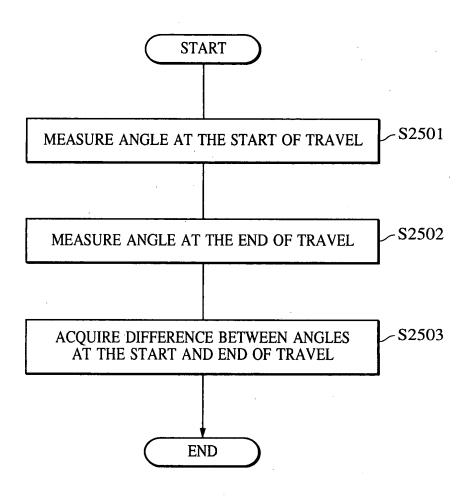


FIG. 25

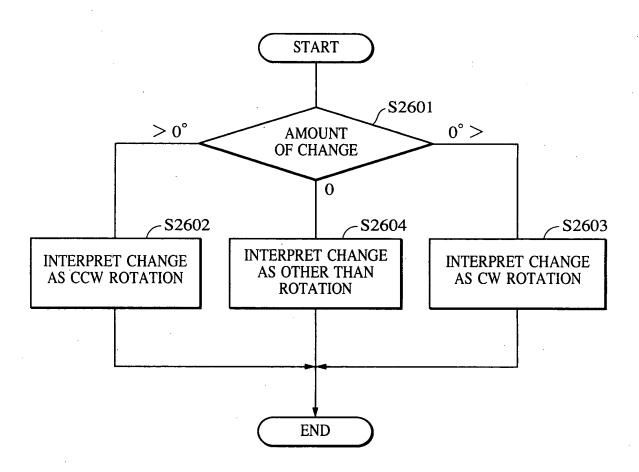


FIG. 26

## CW ROTATION

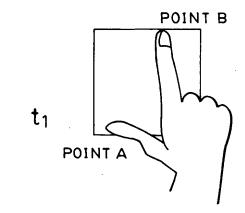


FIG. 27A

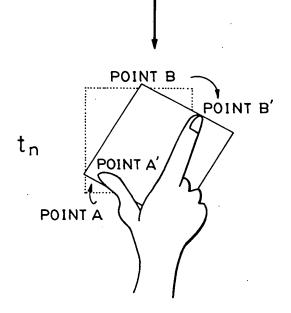


FIG. 27B

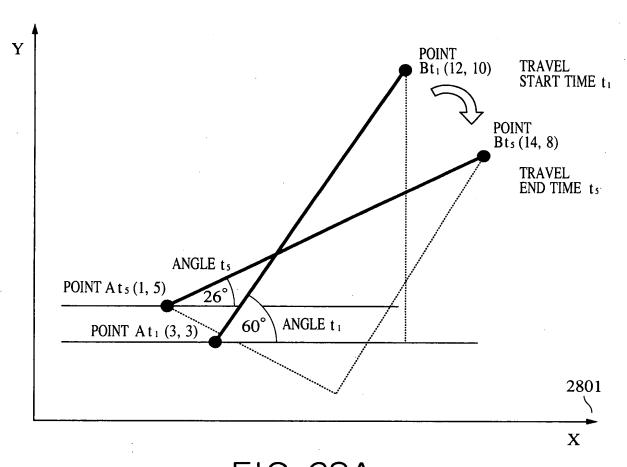


FIG. 28A

# ANGLE OF DESIGNATED POSITIONS A AND B, AND AMOUNT OF CHANGE

	ANGLE OF LINE AB	AMOUNT OF CHANGE $(t_n - t_1)$	
$t_1$	60	0	
t <sub>2</sub>	49	-11	2802حر
t <sub>3</sub>	40	-20	
t <sub>4</sub>	33	-27	
t <sub>5</sub>	26	-34	

FIG. 28B

## CCW ROTATION

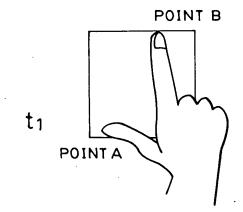


FIG. 29A

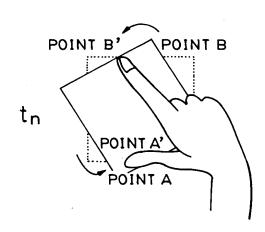
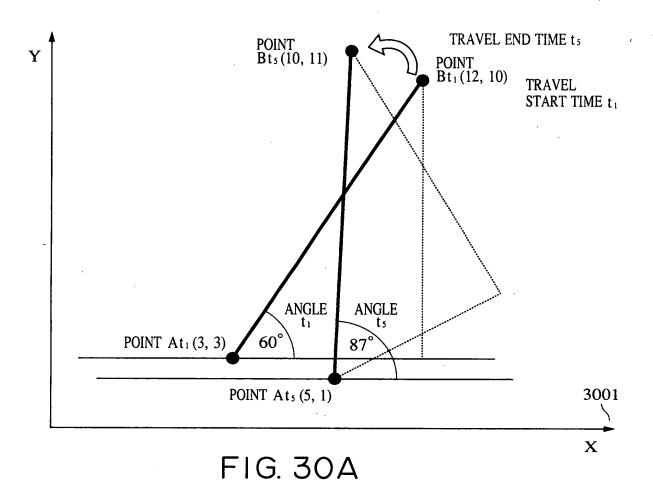


FIG. 29B



ANGLE OF DESIGNATED POSITIONS A AND B, AND AMOUNT OF CHANGE

	ANGLE OF LINE AB	AMOUNT OF CHANGE $(t_n - t_1)$	2002
$t_1$	60	0	<i>y</i> 3002
$t_2$	65	5	
t <sub>3</sub>	70	10	
t <sub>4</sub>	80	20	]
t <sub>5</sub>	87	27	

FIG. 30B

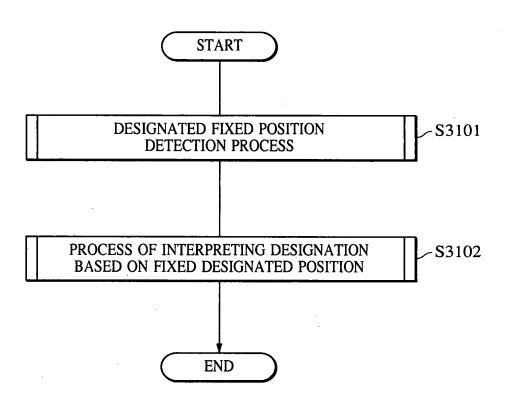


FIG. 31

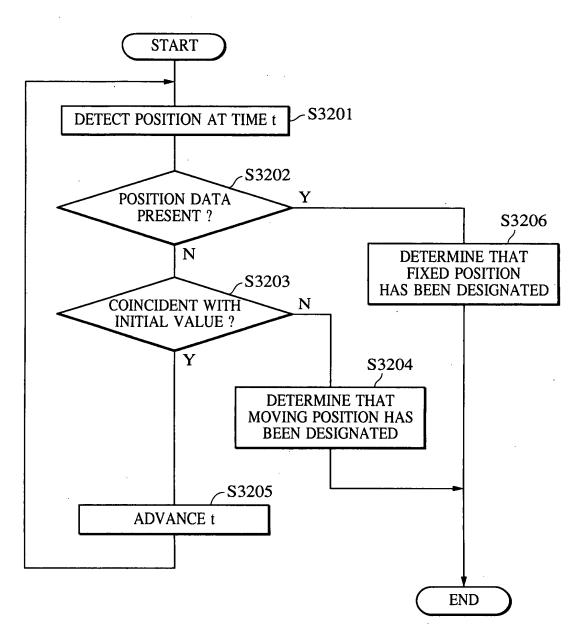


FIG. 32

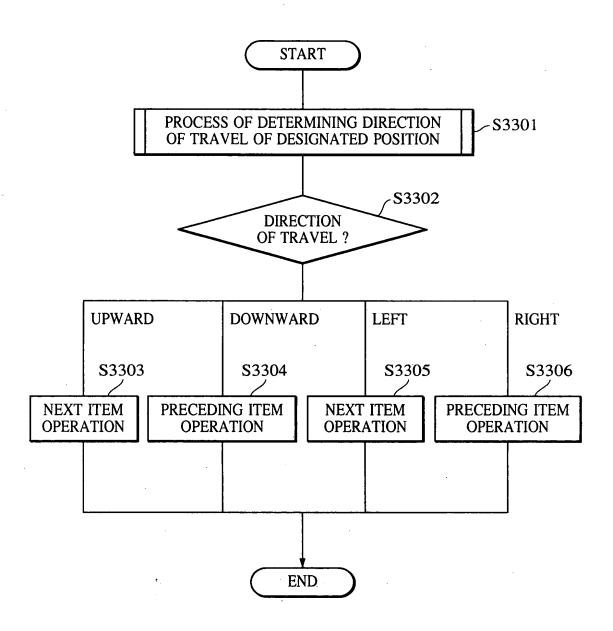


FIG. 33

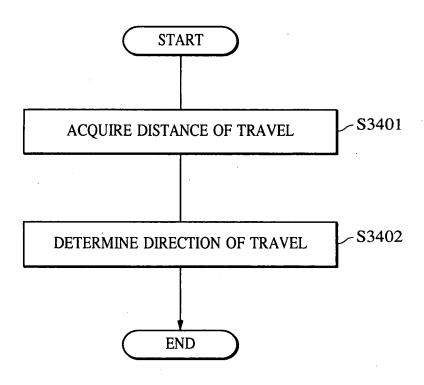


FIG. 34

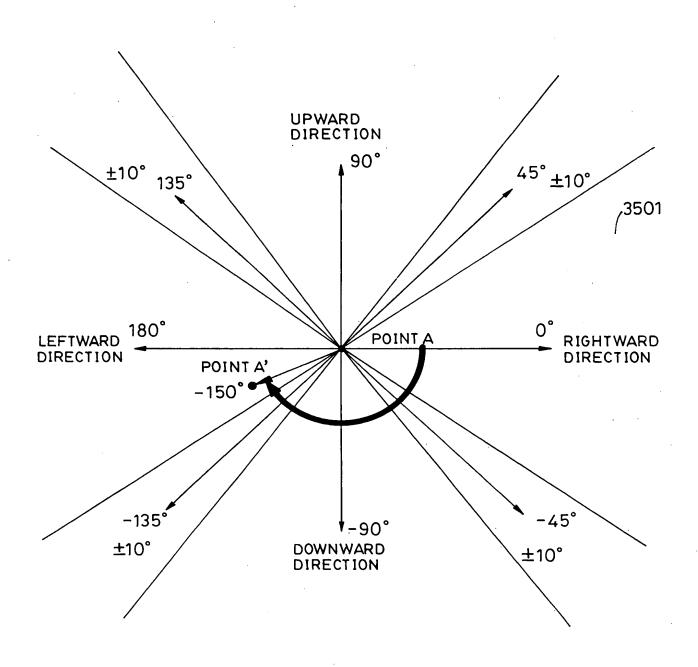
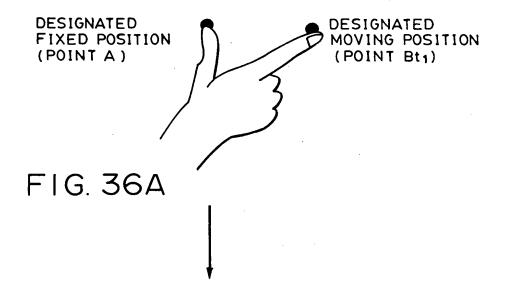


FIG. 35

#### LEFTWARD TRAVEL



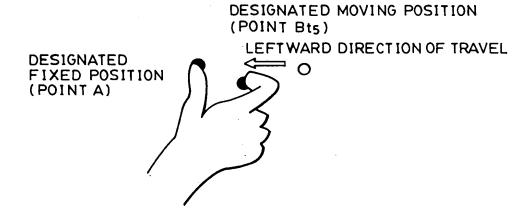
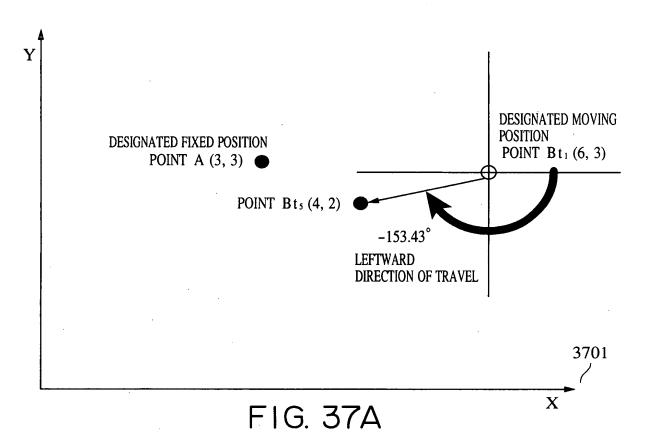


FIG. 36B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	A <sub>Y</sub>
t <sub>1</sub>	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	. 3
t <sub>5</sub>	3	3

FIG. 37B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

<sub>/</sub>3702

-3703

Ì		$\mathbf{B}_{\mathbf{x}}$	$\mathbf{B}_{\mathtt{Y}}$
I	$t_1$	- 6.0	3.0
Ì	t <sub>2</sub>	5.3	2.3
	t <sub>3</sub>	4.7	1.7
	t <sub>4</sub>	4.3	1.2
	t <sub>5</sub>	4.0	2.0

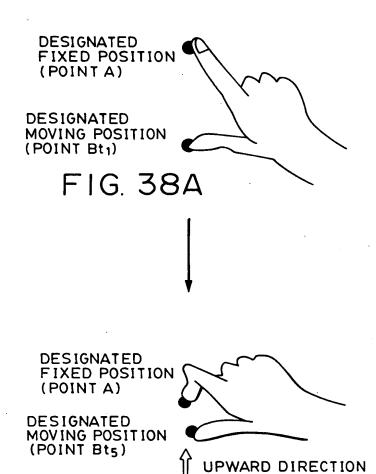
FIG. 37C

# DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL (DEGREES)
t <sub>1</sub>	0.000	0.000	-153.43
t <sub>2</sub>	0.000	0.000	-153.43
t <sub>3</sub>	0.000	1.862	-153.43
t <sub>4</sub>	0.000	2.453	-153.43
t <sub>5</sub>	0.000	2.236	153.43

FIG. 37D

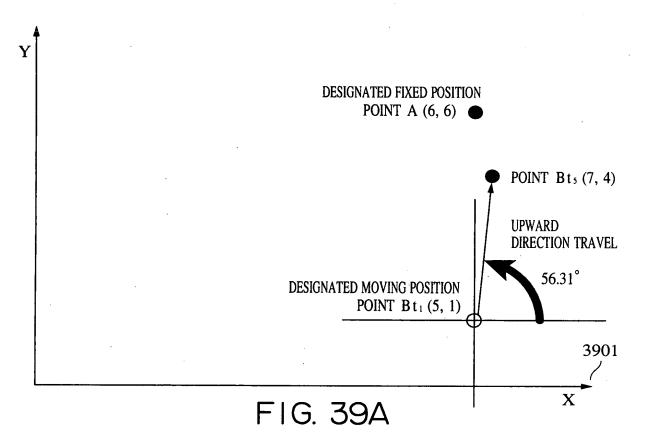
#### UPWARD TRAVEL



**TRAVEL** 

0

FIG. 38B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	6	6
t <sub>2</sub>	6	6
t <sub>3</sub>	6	6
t <sub>4</sub>	6	6
t <sub>5</sub>	6	6

FIG. 39B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

-3902

	Bx	B <sub>Y</sub>
$t_1$	5.0	1.0
t <sub>2</sub>	5.6	1.8
t <sub>3</sub>	6.0	2.3
t <sub>4</sub>	6.6	3.5
t <sub>5</sub>	7.0	4.0

FIG. 390

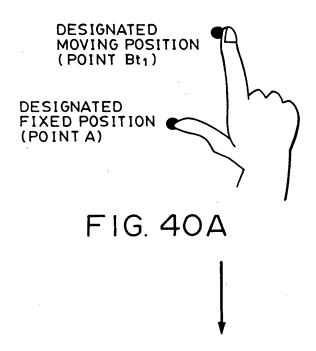
3903

DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
ti	0.000	0.000	0.00
t <sub>2</sub>	0.000	1.000	53.13
t <sub>3</sub>	0.000	1.640	52.43
t <sub>4</sub>	0.000	2.968	57.38
t <sub>5</sub>	0.000	3.606	56.31

FIG. 39D

## DOWNWARD TRAVEL



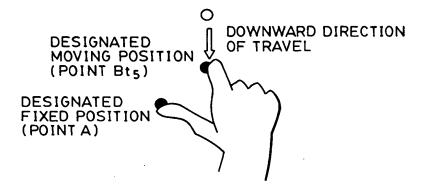
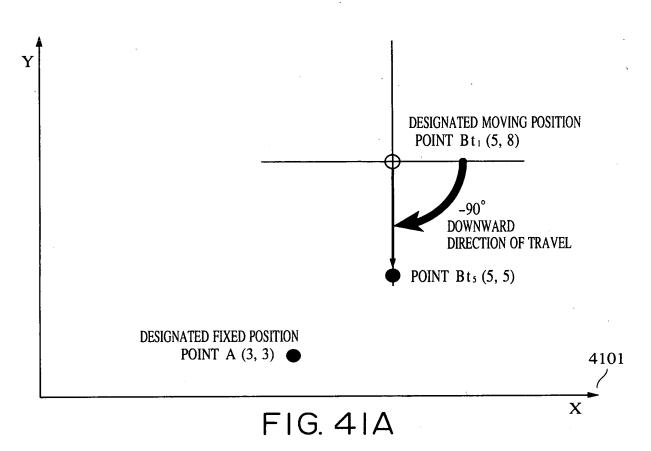


FIG. 40B



# DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 41B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

4102

	$\mathbf{B}_{\mathbf{X}}$	Ву
$t_1$	5.0	8.0
t <sub>2</sub>	5.0	7.2
t <sub>3</sub>	5.0	6.5
t <sub>4</sub>	5.0	5.6
t <sub>5</sub>	5.0	5.0

FIG. 41C

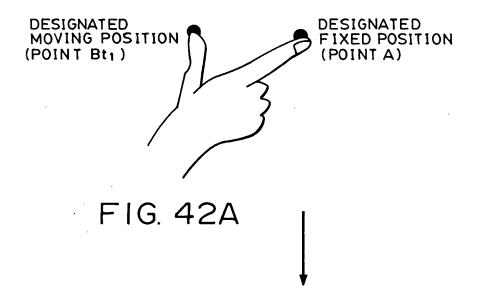
4103

# DESIGNATED POSITION TRAVEL DATA

	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
$t_1$	0.000	0.000	0.00
t <sub>2</sub>	0.000	0.800	-90.00
t <sub>3</sub>	0.000	1.500	-90.00
t <sub>4</sub>	0.000	2.400	-90.00
t <sub>5</sub>	0.000	3.000	-90.00

FIG. 41D

## RIGHTWARD TRAVEL



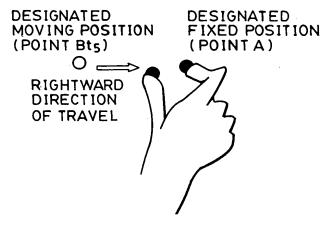
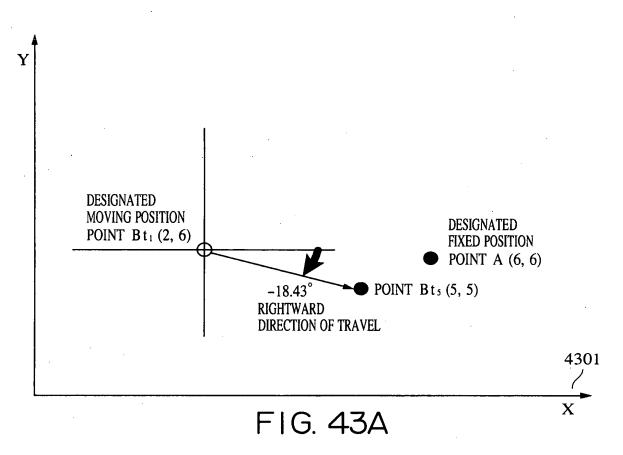


FIG. 42B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

		A <sub>x</sub>	Ay
ļ	tı	6	6
	t <sub>2</sub>	6	6
	t <sub>3</sub>	6	6
	t <sub>4</sub>	6	6
	t <sub>5</sub>	6	6

FIG. 43B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

4302

	Bx	Ву
t <sub>1</sub>	2.0	6.0
t <sub>2</sub>	2.8	5.7
t <sub>3</sub>	3.5	5.6
t <sub>4</sub>	4.2	5.2
t <sub>5</sub>	5.0	5.0

FIG. 43C

\_4303

DESIGNATED PO	DSITION TR	RAVEL	DATA
---------------	------------	-------	------

			/
	TRAVEL OF POINT A	TRAVEL OF POINT B	DIRECTION OF TRAVEL
$t_1$	0.000	0.000	0.00
t <sub>2</sub>	0.000	4.892	-40.86
t <sub>3</sub>	0.000	4.383	-34.78
t <sub>4</sub>	0.000	3.672	-29.36
t <sub>5</sub>	0.000	3.162	-18.43

FIG. 43D

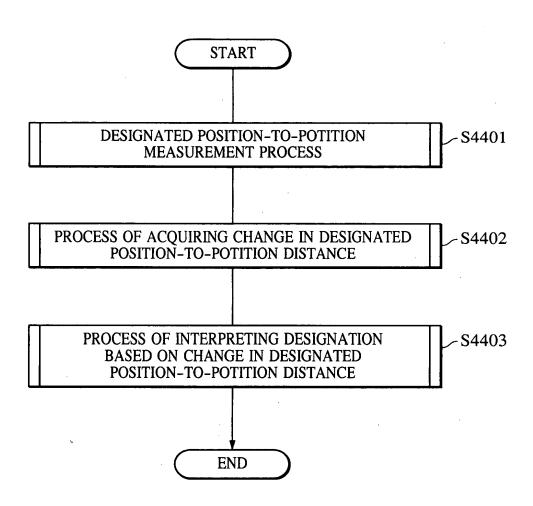


FIG. 44

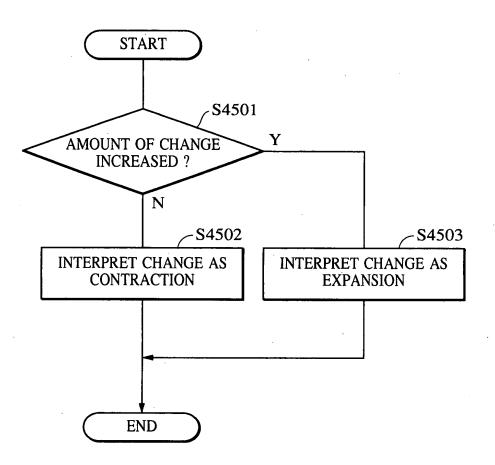
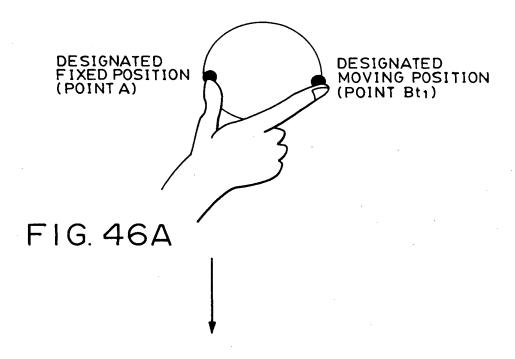


FIG. 45

## CONTRACTION OPERATION



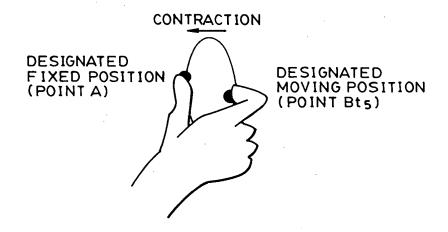
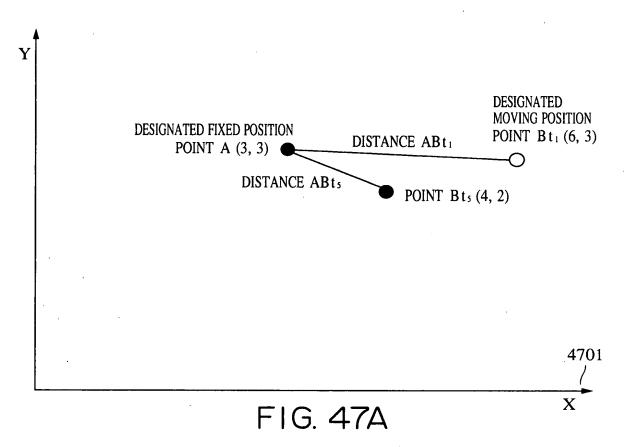


FIG. 46B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3	3
$t_2$	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 47B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

4702

	$\mathbf{B}_{\mathbf{x}}$	Вч
$\mathbf{t}_1$	6.0	3.0
t <sub>2</sub>	5.3	2.3
t <sub>3</sub>	4.7	1.7
t <sub>4</sub>	4.3	1.2
t <sub>5</sub>	4.0	2.0

FIG. 47C

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE 4703

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>n</sub> /DISTANCE t <sub>1</sub> )	DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub>
$t_1$	3.000	100%	0.000
$t_2$	2.436	81%	-0.564
t <sub>3</sub>	2.114	70%	-0.886
t <sub>4</sub>	2.240	75%	-0.760
t <sub>5</sub>	1.414	47%	-1.586

FIG. 47D

## **EXPANSION OPERATION**

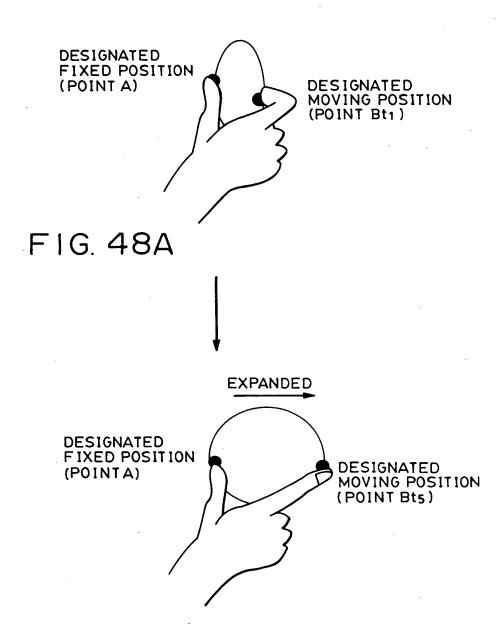
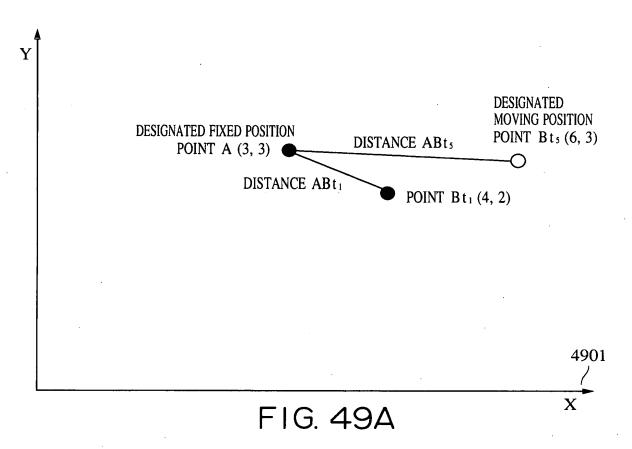


FIG. 48B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	A <sub>Y</sub>
$t_1$	3	3
$t_2$	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 49B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

-4902

	$\mathbf{B}_{\mathbf{x}}$	B <sub>Y</sub>
$t_1$	4.0	2.0
t <sub>2</sub>	4.5	2.2
t <sub>3</sub>	5.2	2.5
t <sub>4</sub>	5.8	2.8
t <sub>5</sub>	6.0	3.0

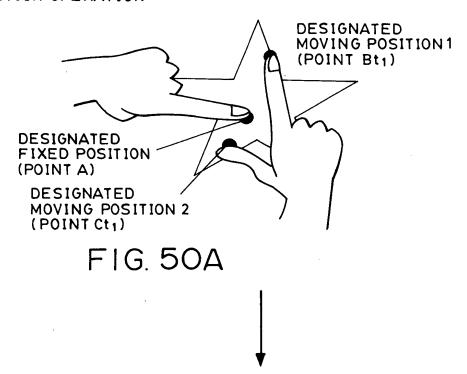
FIG. 49C

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

	DISTANCE BETWEEN A AND B	MAGNIFICATION (DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )	4903ح
$t_1$	1.414	100%	
t <sub>2</sub>	1.700	120%	
t <sub>3</sub>	2.256	160%	
t <sub>4</sub>	2.807	198%	
t <sub>5</sub>	3.000	212%	

FIG. 49D

## CONTRACTION OPERATION



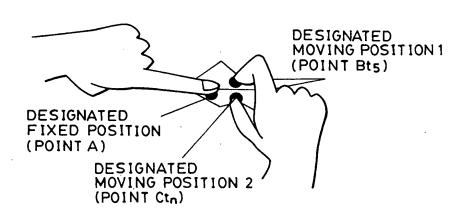


FIG. 50B

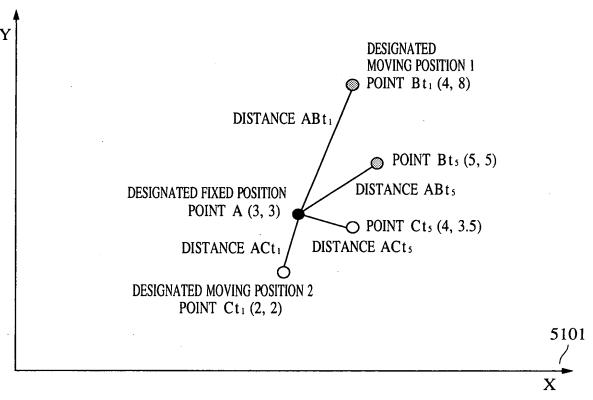


FIG. 51A

**DESIGNATED FIXED POSITION** POSITION DATA OF POINT A

**t**2 Α̈́

Ax

8.0  $\mathbf{B}_{\mathbf{Y}}$ 

> 4.0 4.2

Ř

DESIGNATED MOVING POSITION 1 POSITION DATA OF POINT B

DESIGNATED MOVING POSITION 2 POSITION DATA OF POINT C 102

5	`				
$C_{Y}$	2.0	2.3	2.8	3.3	3.5
Cx	2.0	2.8	3.4	3.8	4.0
	tı	<b>t</b> 2	t3	t4	ts

5.8 6.3

4.7

t<sub>4</sub>

**t**2

5.0

4.4

13 t 4 FIG. 51C

FIG. 51B

FIG. 51D

DATA I OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

100% 64% 55% %98 20% (DISTANCE t<sub>n</sub>/DISTANCE t<sub>1</sub>) MAGNIFICATION BETWEEN A AND B 3.276 2.828 4.368 3.585 5.099 DISTANCE

5103 DATA 2 OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

	DISTANCE	MAGNIFICATION
	BETWEEN A AND B	(DISTANCE t <sub>n</sub> / DISTANCE t <sub>1</sub> )
$t_1$	1.414	100%
$ t_2 $	0.728	.51%
t3	0.447	32%
t4	0.854	%09
ts	1.118	%6L

FIG. 51E

FIG. 51F

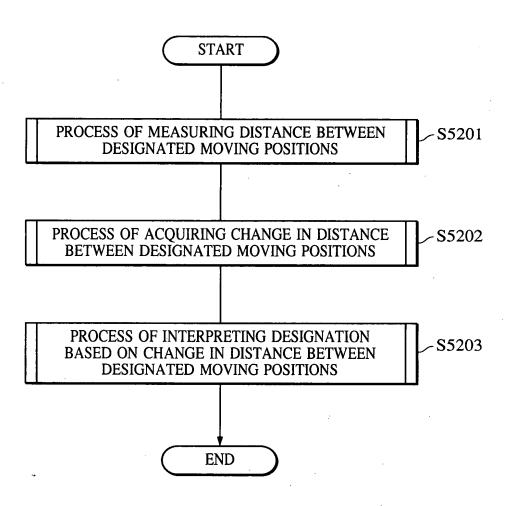


FIG. 52

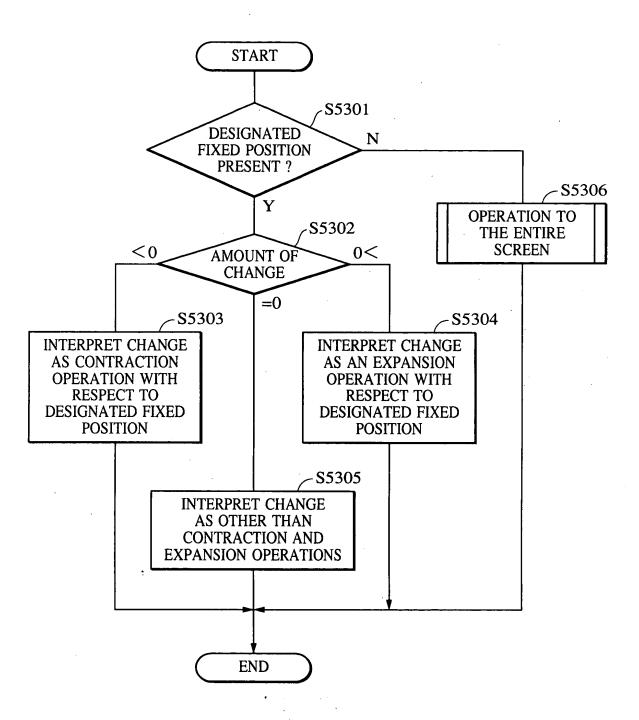
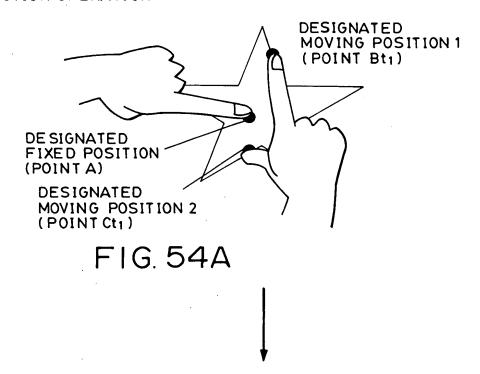


FIG. 53

#### CONTRACTION OPERATION



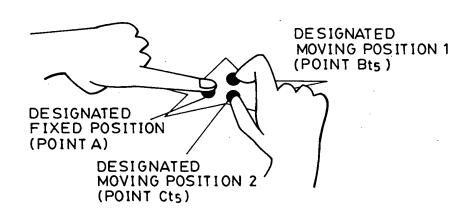
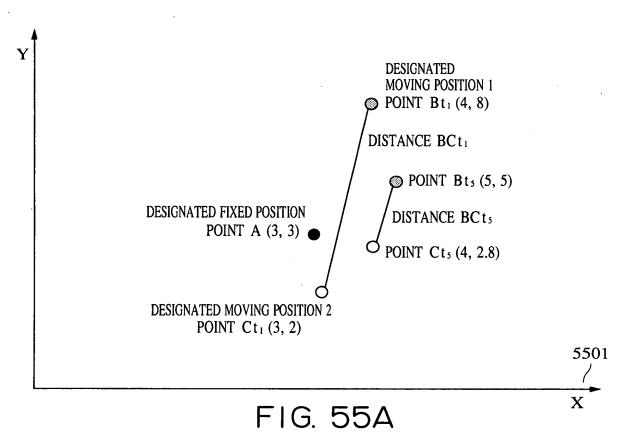


FIG. 54B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

		Ax	Ay
t	1	3	3
t	2	3	3
t	3	3	3
t	4	3	3
t	5	3	3

**DESIGNATED MOVING POSITION** POSITION DATA OF POINT B

	Вх	Ву
$\mathbf{t}_1$	4.0	8.0
t <sub>2</sub>	4.2	7.2
t <sub>3</sub>	4.4	6.3
t <sub>4</sub>	4.7	5.8
t <sub>5</sub>	5.0	5.0

DESIGNATED MOVING POSITION POSITION DATA OF POINT C -5502

	Cx	Су
$t_1$	3.0	2.0
t <sub>2</sub>	3.2	2.2
t <sub>3</sub>	3.4	2.4
t <sub>4</sub>	3.8	2.6
t <sub>5</sub>	4.0	2.8

\_5503

FIG. 55B FIG. 55C FIG. 55D

DATA OF CHANGE IN DESIGNATED
POSITION-TO-POSITION DISTANCE

	DISTANCE	MAGNIFICATION		
ŀ	BETWEEN B AND C	(DISTANCE $t_n$ / DISTANCE $t_1$ )		
$t_1$	6.083	100%		
t <sub>2</sub>	5.099	84%		
t <sub>3</sub>	4.026	66%		
t <sub>4</sub>	3.324	55%		
t <sub>5</sub>	2.417	40%		

FIG. 55E

## CONTRACTION OPERATION

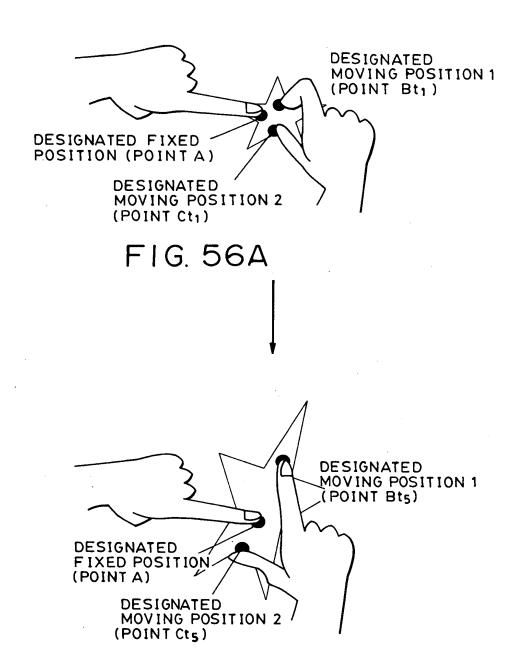
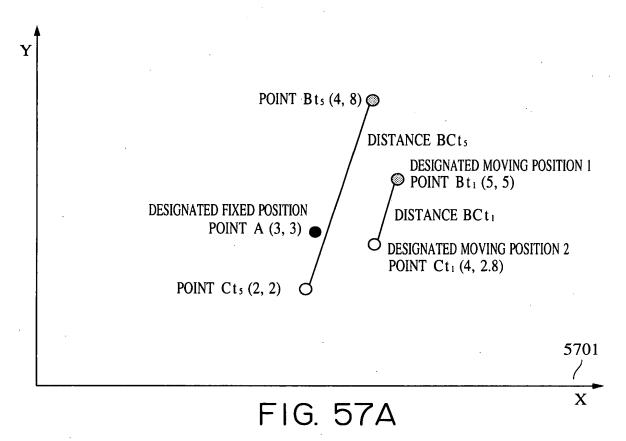


FIG. 56B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

**DESIGNATED MOVING POSITION 1** POSITION DATA OF POINT B

	Вх	Ву
$t_1$	5.0	5.0
$t_2$	4.7	5.8
t <sub>3</sub>	4.4	6.3
t <sub>4</sub>	4.2	7.2
t <sub>5</sub>	4.0	8.0

**DESIGNATED MOVING POSITION 2** POSITION DATA OF POINT C

-5702

	Cx	$\mathbf{C}_{\mathbf{Y}}$
$t_1$	4.0	2.8
t <sub>2</sub>	3.8	2.6
t <sub>3</sub>	3.4	2.4
t <sub>4</sub>	2.8	2.2
t <sub>5</sub>	2.0	2.0

<sub>~</sub>5703

FIG. 57B FIG. 57C FIG. 57D

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

	DISTANCE	MAGNIFICATION			
	BETWEEN B AND C	(DISTANCE $t_n$ / DISTANCE $t_1$ )			
$t_1$	2.417	100%			
t <sub>2</sub>	3.324	138%			
t <sub>3</sub>	4.026	167%			
t <sub>4</sub>	5.192	215%			
t <sub>5</sub>	6.325	262%			

FIG. 57E

#### DESIGNATING A PLURALITY OF MOVING POINTS

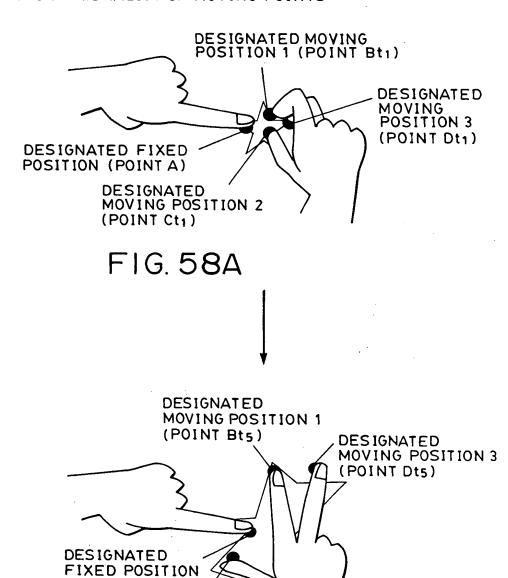


FIG. 58B

MOVING POSITION 2

(POINT A)

DESIGNATED

(POINT Ct<sub>5</sub>)

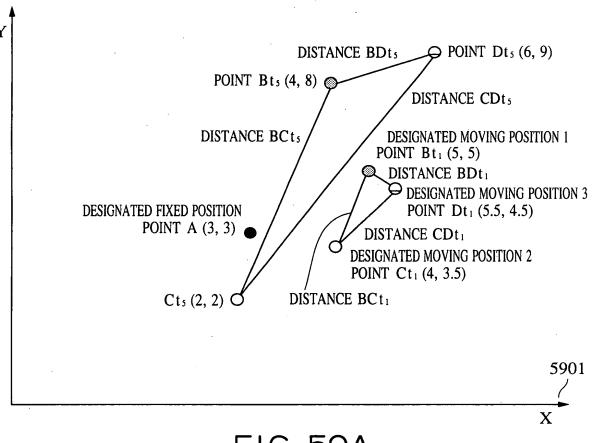


FIG. 59A

4.0 5.0 4.2 4.4 4.7 Bx DESIGNATED FIXED POSITION POSITION DATA OF POINT A  $A_{Y}$ Α×

DESIGNATED MOVING POSITION POSITION DATA OF POINT B 8.0 6.3  $\mathbf{B}_{\mathsf{Y}}$ 

DESIGNATED MOVING POSITION POSITION DATA OF POINT C 2.0 2.0 4.0 3.8 3.4 2.8 ţ FIG. 59D

F16. 59C

FIG. 59B

DESIGNATED MOVING POSITION POSITION DATA OF POINT D

0000	7065					
	$D_{Y}$	4.5	6.0	7.0	8.0	9.0
	Dx	5.5	9.9	5.8	5.9	0.9
		$t_1$	t2	t3	t4	ts

FIG. 59E

5903

DATA 3 OF CHANGE IN DESIGNATED

POSITION-TO-POSITION DISTANCE

DATA I OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

DATA 2 OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

100% (DISTANCE t<sub>n</sub> / DISTANCE t<sub>1</sub>) MAGNIFICATION BETWEEN B AND D 0.707 DISTANCE

100% 180% 268% 447% BETWEEN C AND D | (DISTANCE t<sub>1</sub>) DISTANCE t<sub>1</sub>) 360% MAGNIFICATION 3.245 6.488 8.062 1.803 4.837 DISTANCE 316% 130% 221% 266%

> 0.922 1.565 1.879 2.236

2

100% 147%

1.803

BETWEEN B AND C | (DISTANCE t., / DISTANCE t.)

MAGNIFICATION

DISTANCE

202% 283% 351%

4 3

5.096

6.325

3.640

2.657

 $t_2$ 

FIG. 59F

FIG. 59G

FIG. 29H

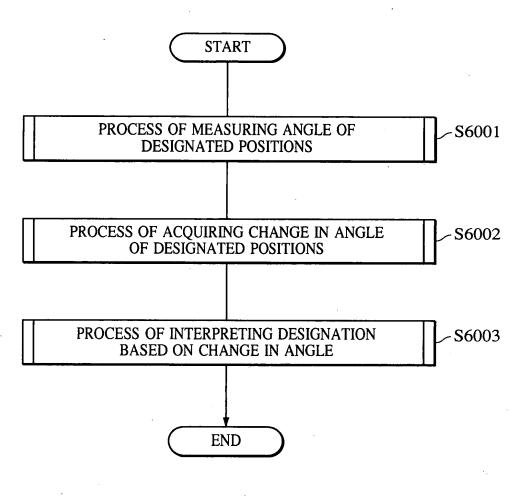


FIG. 60

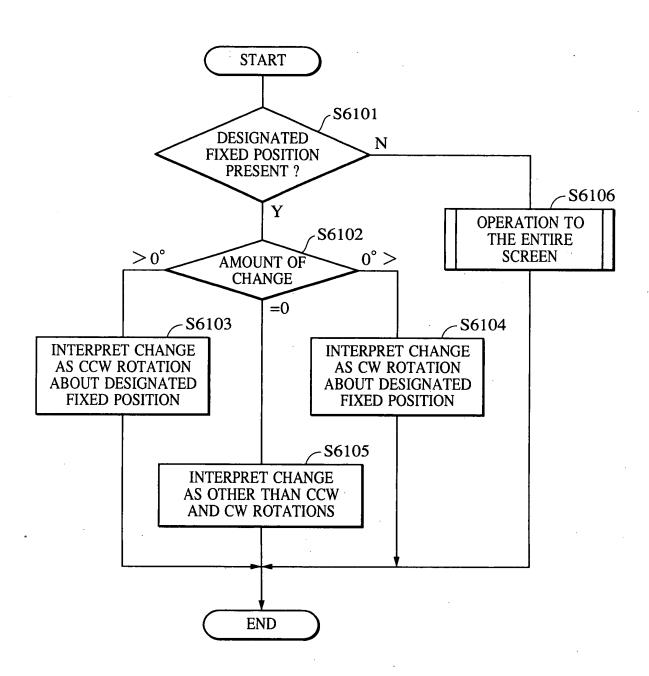


FIG. 61

# CW ROTATION OPERATION

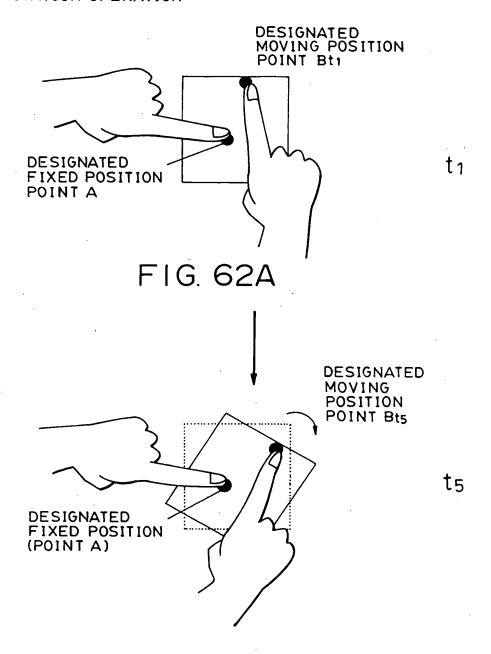
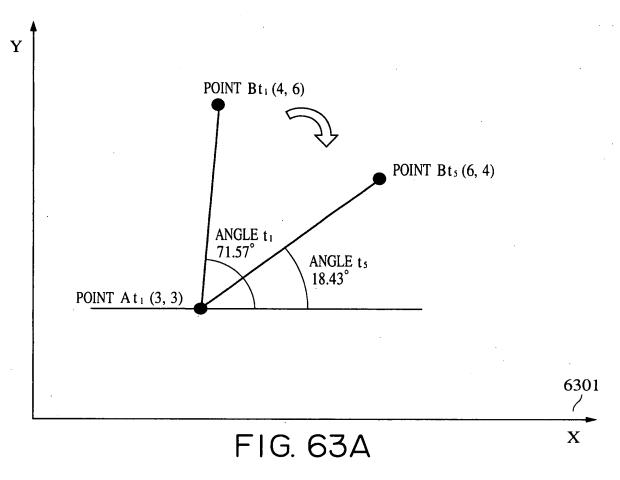


FIG. 62B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 63B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

-6302B

	Bx	$\mathbf{B}_{\mathtt{Y}}$
$t_1$	4.0	6.0
t <sub>2</sub>	4.7	5.7
t <sub>3</sub>	5.2	5.3
t <sub>4</sub>	5.7	4.6
t <sub>5</sub>	6.0	4.0

FIG. 63C

DATA OF CHANGE IN ANGLE OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS	AMOUNT OF CHANGE
$t_1$	71.57	0.00
t <sub>2</sub>	57.57	-14.00
t <sub>3</sub>	45.91	-25.66
t <sub>4</sub>	30.67	-40.90
t <sub>5</sub>	18.43	-53.13

-6302A

<sub>\_</sub>6303

FIG. 63D

## **CCW ROTATION OPERATION**

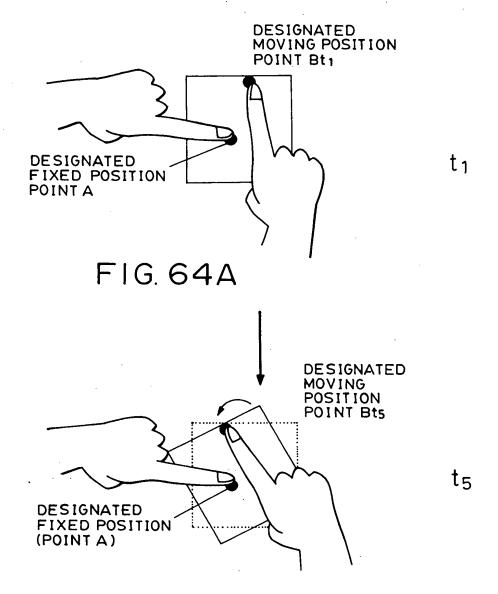
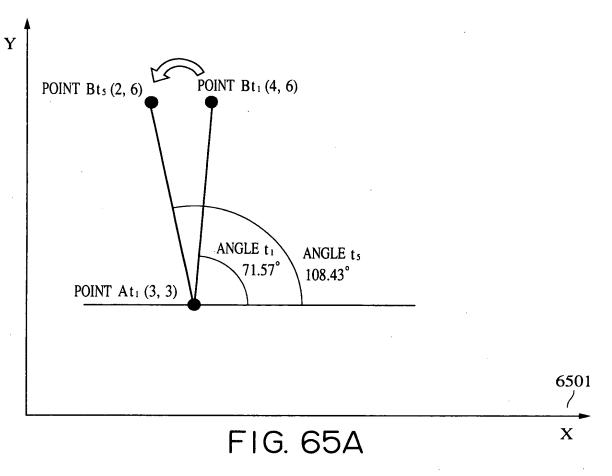


FIG. 64B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	$A_{x}$	$A_{Y}$
$\mathbf{t}_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

FIG. 65B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

	Вx	Ву
$t_1$	4.0	6.0
t <sub>2</sub>	3.5	6.1
t <sub>3</sub>	3.0	6.2
t <sub>4</sub>	2.5	6.1
t <sub>5</sub>	2.0	6.0

FIG. 65C

DATA OF CHANGE IN ANGLE OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED FIXED POSITIONS	AMOUNT OF CHANGE
$t_1$	71.57	0.00
t <sub>2</sub>	80.90	9.34
t <sub>3</sub>	90.00	18.43
t <sub>4</sub>	99.10	27.53
t <sub>5</sub>	108.43	36.87

**6503** 

FIG. 65D

6502B

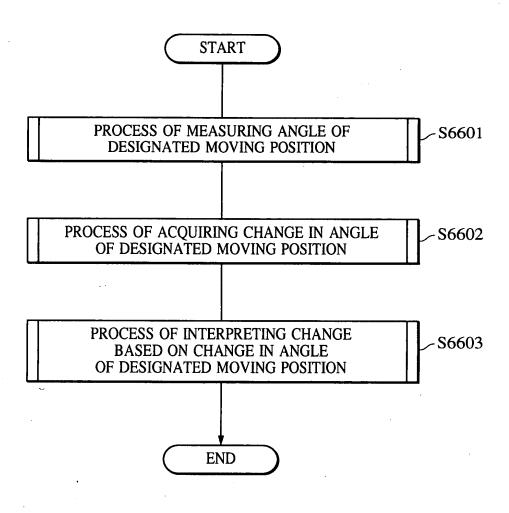


FIG. 66

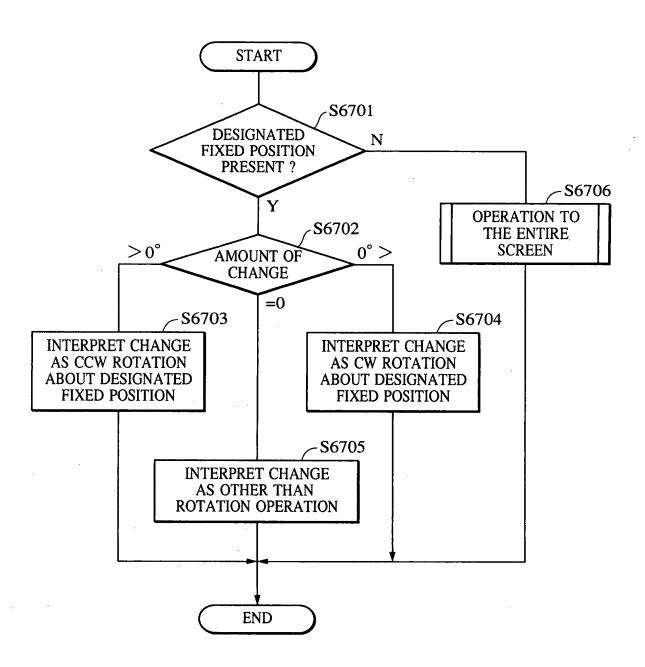


FIG. 67

# CW ROTATION OPERATION

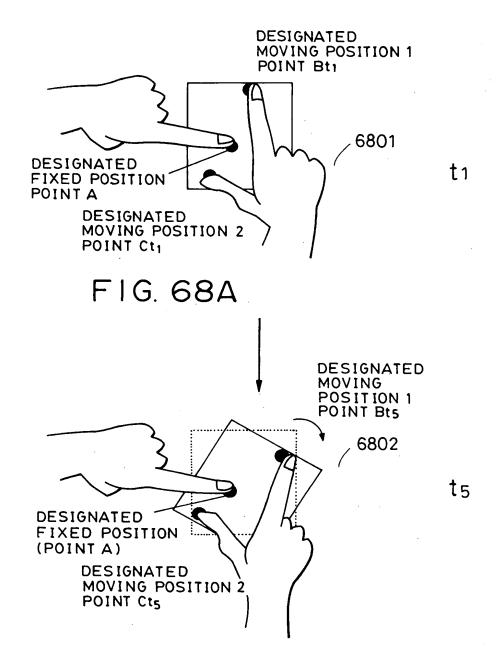
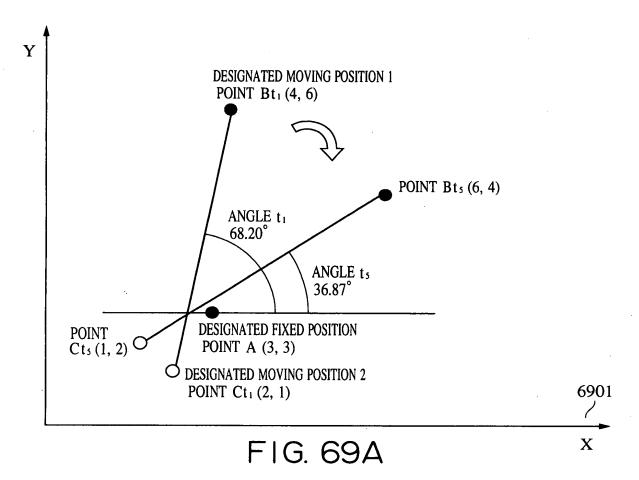


FIG. 68B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

POSITION DATA OF POINT B

DESIGNATED MOVING POSITION DESIGNATED MOVING POSITION POSITION DATA OF POINT C

	Ax	Ay
t <sub>1</sub>	3	3
t <sub>2</sub>	3	. 3
t <sub>3</sub>	3	3
t <sub>4</sub>	3	3
t <sub>5</sub>	3	3

1		$\mathbf{B}_{\mathbf{x}}$	Ву
	$t_1$	4.0	6.0
	$t_2$	4.5	5.5
	t <sub>3</sub>	5.0	5.0
1	t <sub>4</sub>	5.5	4.5
	t <sub>5</sub>	6.0	4.0

	Cx	$\mathbf{C}_{\mathtt{Y}}$	<sub>~</sub> 6902
$t_1$	2	1	
t <sub>2</sub>	1.8	1.2	
t <sub>3</sub>	1.6	1.5	
t <sub>4</sub>	1.4	1.8	
t <sub>5</sub>	1	2	

FIG. 69B

FIG. 69C

FIG. 69D

DATA OF CHANGE IN ANGLE OF DESIGNATED MOVING POSITIONS

	ANGLE OF DESIGNATED MOVING POSITION	AMOUNT OF CHANGE
$\mathbf{t}_1$	68.20	0.00
t <sub>2</sub>	60.95	-7.25
t <sub>3</sub>	53.13	-15.07
t <sub>4</sub>	45.00	-23.20
t <sub>5</sub>	36.87	-31.33

6903

FIG. 69E

#### **CCW ROTATION OPERATION**

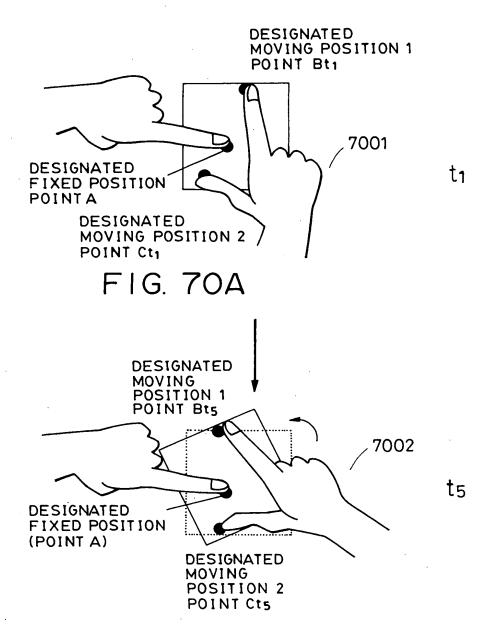
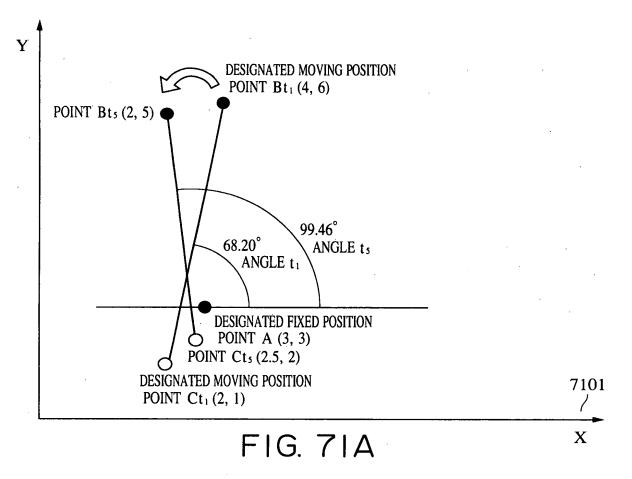


FIG. 70B



POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t4	3	3.
t <sub>5</sub>	3	3

FIG. 7IB FIG. 7IC FIG. 7ID

POSITION DATA OF POINT B

		Bx	Ву
	$t_1$	4.0	6.0
	t <sub>2</sub>	3.5	5.8
	<b>t</b> <sub>3</sub>	3.0	5.4
	t <sub>4</sub>	2.5	5.2
•	t5	2.0	5.0

DESIGNATED FIXED POSITION DESIGNATED MOVING POSITION DESIGNATED MOVING POSITION POSITION DATA OF POINT C

	Cx	C <sub>Y</sub>	<sub>~</sub> 7102
$\mathbf{t}_1$	2	1	
t <sub>2</sub>	2.1	1.2	
t <sub>3</sub>	2.3	1.5	
t <sub>4</sub>	2.4	1.8	
t <sub>5</sub>	2.5	2	

### DATA OF CHANGE IN ANGLE OF DESIGNATED MOVING POSITIONS

	ANGLE OF DESIGNATED MOVING POSITION	AMOUNT OF CHANGE
$t_1$	68.20	0.00
t <sub>2</sub>	73.07	4.87
t <sub>3</sub>	79.82	11.63
t <sub>4</sub>	88.32	20.12
t <sub>5</sub>	99.46	31.26

-7103

FIG. 71E

## ROTATION OPERATION ABOUT THE CENTER OF GRAVITY OF DESIGNATED MOVING POSITION

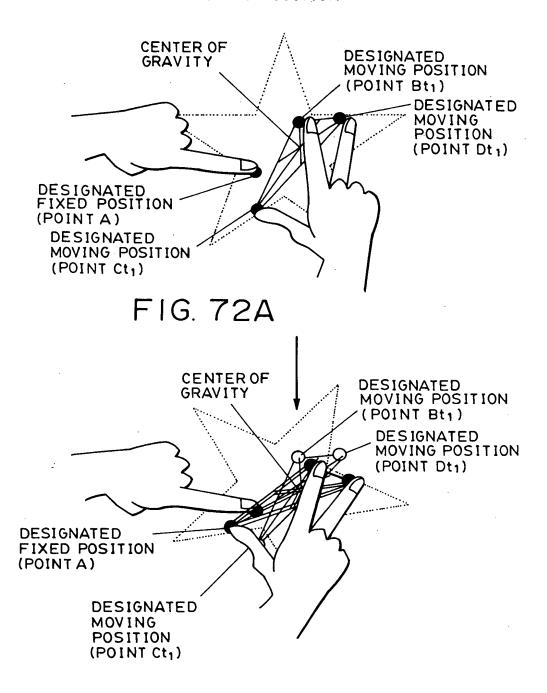


FIG. 72B

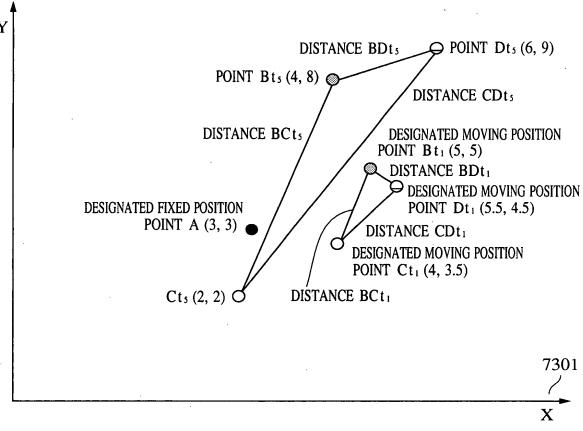


FIG. 73A

**POSITIO** 

TION F A						
ATED FIXED POSITION IN DATA OF POINT A	Αγ	3	3	3	3	3
ATED FI	Ax	3	3	3	3	3

**t**2

**t**4

SES

NOLLIN B						
SIGNATED MOVING POSITION SITION DATA OF POINT B	$\mathbf{B}_{\mathbf{Y}}$	5.0	5.8	6.3	7.2	8.0
ATED MO N DATA (	Bx	5.0	4.7	4.4	4.2	4.0
		$t_1$	$\mathbf{t}_2$	t <sub>3</sub>	<b>t</b> 4	ts

DESIGNATED MOVING POSITION

POSITION INT C						
OVING POS OF POINT	$C_{Y}$	3.5	3.3	2.8	2.3	2.0
DATA	Cx	4.0	3.8	3.4	2.8	2.0
NOIL 100N		t <sub>1</sub>	t <sub>2</sub>	t3	t4	t,

DESIGNATED MOVING POSITION POSITION DATA OF POINT D

7302	`				
Ďχ	4.5	0.9	7.0	8.0	9.0
Dx	5.5	5.6	5.8	5.9	0.9
	t <sub>1</sub>	t <sub>2</sub>	t3	t4	ts

FIG. 73E

FIG. 73B

FIG. 73C

FIG. 73D

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

7303

BETWEEN C AND D (DISTANCE t<sub>1</sub>) DISTANCE t<sub>1</sub>) 100% 180% 268% 360% 447% MAGNIFICATION 1.803 3.245 6.488 8.062 4.837 DISTANCE **t**3

> 100% 130% 221% 266% 316%

BETWEEN B AND D (DISTANCE ta/ DISTANCE t1)

MAGNIFICATION

DISTANCE

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

FIG. 73F

FIG. 73G

2.236

1.565 1.879

283%

5.096 6.325

351%

0.922 0.707

100%

1.803 2.657 3.640

> ţ ż

BETWEEN B AND C (DISTANCE t., / DISTANCE t.)

MAGNIFICATION

DISTANCE

DATA OF CHANGE IN DESIGNATED POSITION-TO-POSITION DISTANCE

147% 202% FIG. 73H

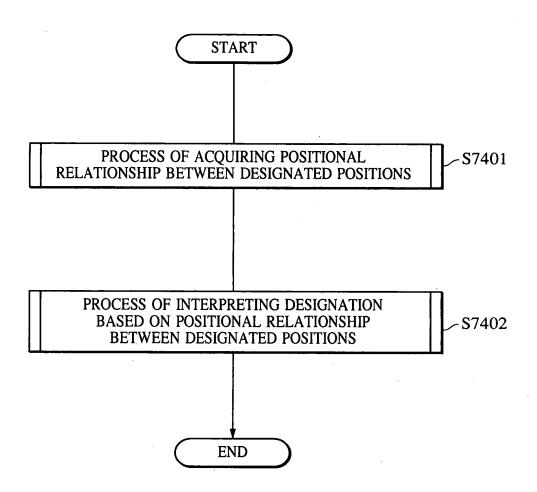


FIG. 74

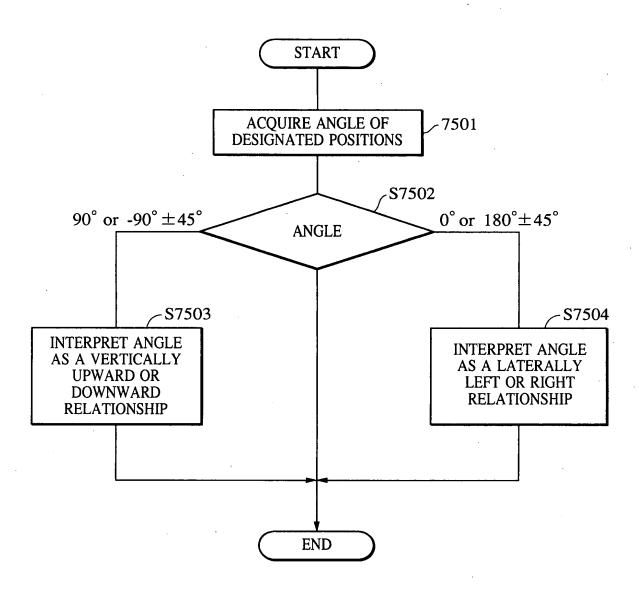


FIG. 75

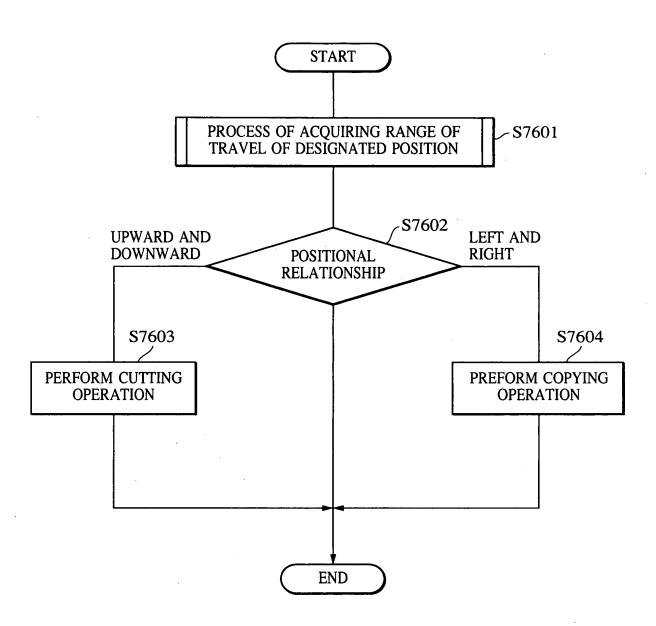


FIG. 76

## PARALLEL TRAVEL WITH VERTICAL RELATIONSHIP MAINTAINED

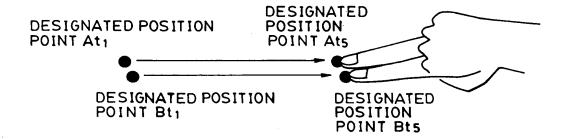
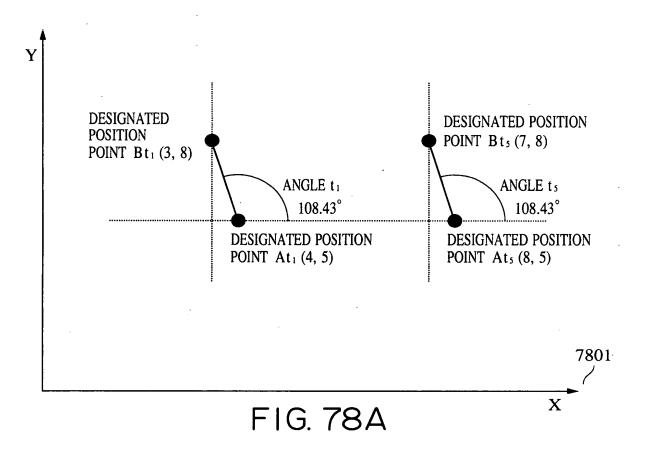


FIG. 77



## DESIGNATED POSITION POSITION DATA OF POINT A

		A <sub>x</sub>	Ay
	$t_1$	4.0	5.0
I	t <sub>2</sub>	5.0	5.0
1	t <sub>3</sub>	6.0	5.0
	t <sub>4</sub>	7.0	5.0
	t <sub>5</sub>	8.0	5.0

FIG. 78B

# DESIGNATED POSITION POSITION DATA OF POINT B

	Bx	Ву
$t_1$	3.0	8.0
t <sub>2</sub>	4.0	8.0
t <sub>3</sub>	5.0	8.0
t <sub>4</sub>	6.0	8.0
t <sub>5</sub>	7.0	8.0

7802

FIG. 78C

### POSITION DATA OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS	
$t_1$	108.43	
t <sub>2</sub>	108.43	] _
t <sub>3</sub>	108.43	
t <sub>4</sub>	108.43	1
t <sub>5</sub>	108.43	

<sub>/</sub>7803

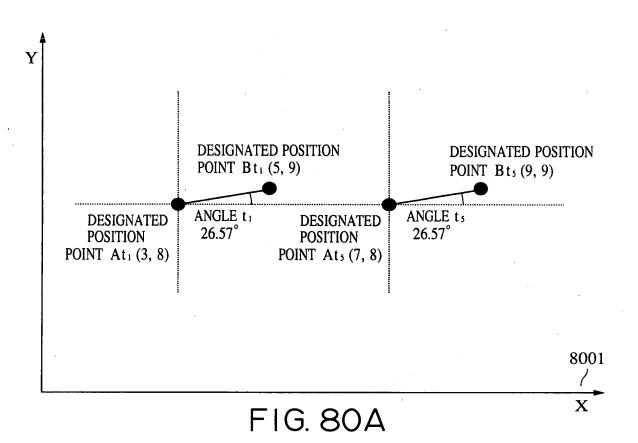
FIG. 78D

# PARALLEL TRAVEL WITH LATERAL RELATIONSHIP MAINTAINED

DESIGNATED POSITION POINT Bt<sub>1</sub> DESIGNATED POSITION POINT Bt5

DESIGNATED POSITION POINT At<sub>1</sub> DESIGNATED POSITION POINT Ats

FIG. 79



DESIGNATED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3.0	8.0
t <sub>2</sub>	4.0	8.0
t <sub>3</sub>	5.0	8.0
t <sub>4</sub>	6.0	8.0
t <sub>5</sub>	7.0	8.0

FIG. 80B

DESIGNATED POSITION POSITION DATA OF POINT B

	B <sub>x</sub>	Ву	~8002
tı	5.0	9.0	
t <sub>2</sub>	6.0	9.0	
t <sub>3</sub>	7.0	9.0	
t <sub>4</sub>	8.0	9.0	
t <sub>5</sub>	9.0	9.0	

FIG. 80C

#### POSITION DATA OF DESIGNATED POSITIONS

	ANGLE OF DESIGNATED POSITIONS	
8003	26.57	$t_1$
	26.57	t <sub>2</sub>
	26.57	t <sub>3</sub>
, _	26.57	t <sub>4</sub>
H1(	26.57	t <sub>5</sub>

FIG. 80D

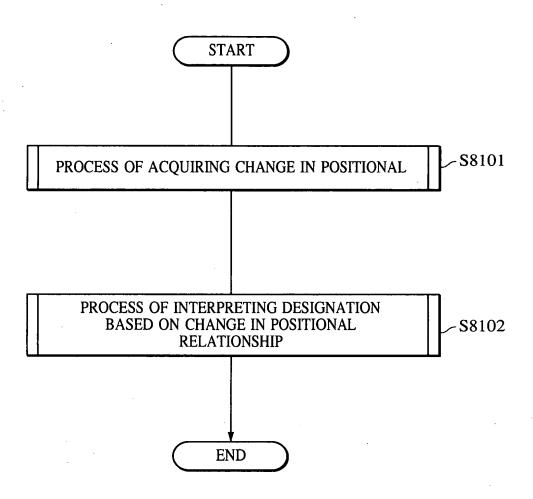
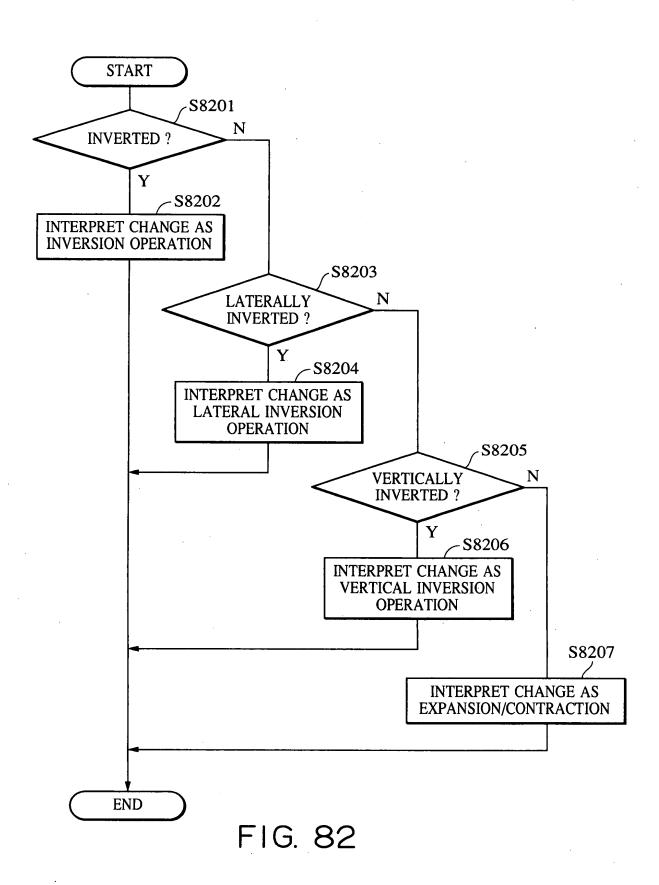
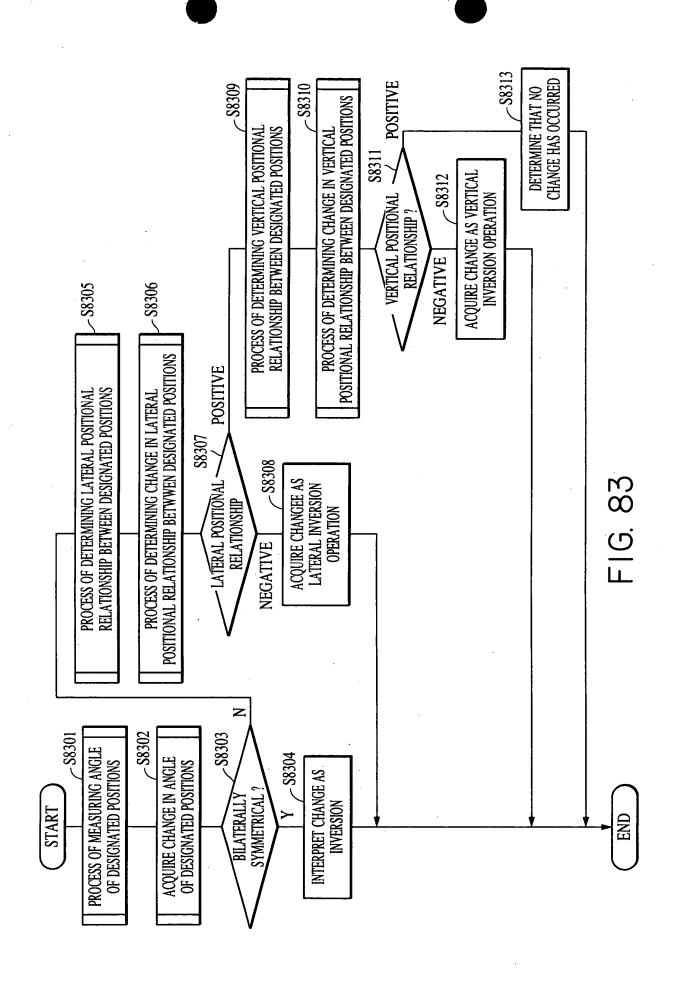


FIG. 81





#### REVERSAL OPERATION

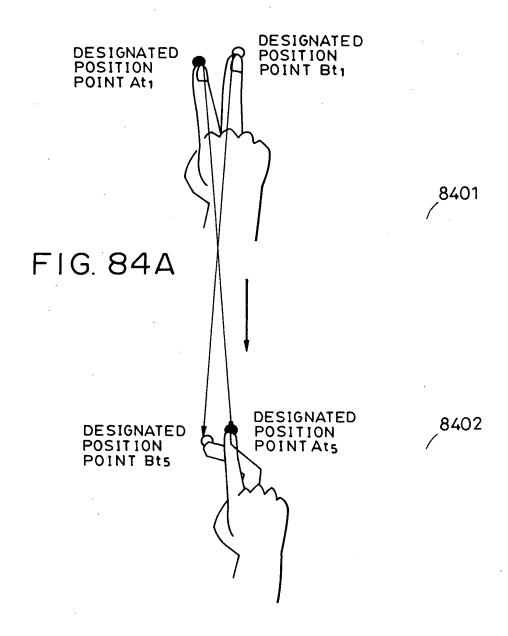
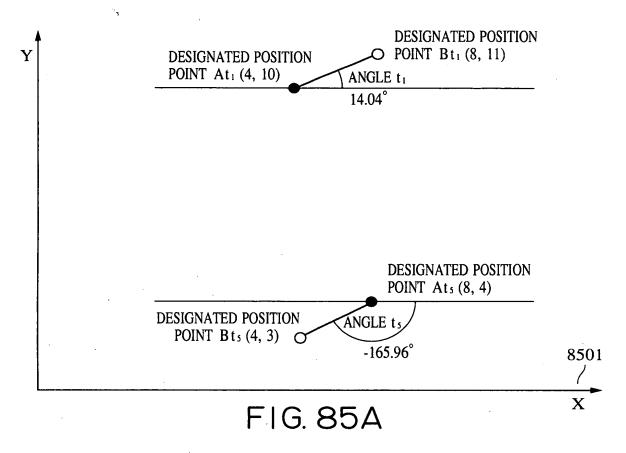


FIG. 84B



DESIGNATED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	4.0	10.0
$t_2$	5.0	8.0
t <sub>3</sub>	6.0	6.0
t <sub>4</sub>	7.0	5.0
t <sub>5</sub>	8.0	4.0

FIG. 85B

DESIGNATED POSITION POSITION DATA OF POINT B

	$\mathbf{B}_{\mathbf{x}}$	$\mathbf{B}_{\mathbf{Y}}$
$t_1$	8.0	11.0
t <sub>2</sub>	7.0	9.0
t <sub>3</sub>	6.0	7.0
t <sub>4</sub>	5.0	5.0
t <sub>5</sub>	4.0	3.0

8502

8503

FIG. 85C

DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
t <sub>1</sub>	-4.0	-1.0	14.04	0.00
t <sub>2</sub>	-2.0	-1.0	26.57	-12.53
t <sub>3</sub>	0.0	-1.0	90.00	-75.99
t <sub>4</sub>	2.0	0.0	180.00	-165.96
t <sub>5</sub>	4.0	1.0	-165.96	180.00

FIG. 85D

#### LATERAL INVERSION

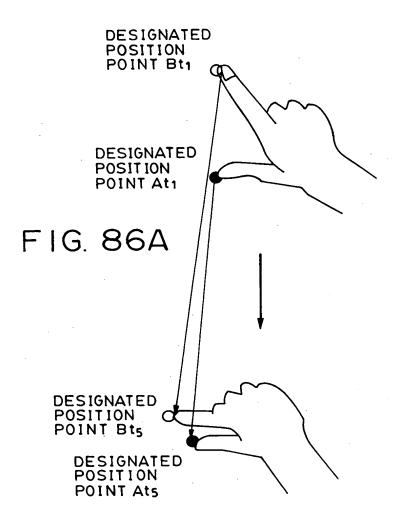
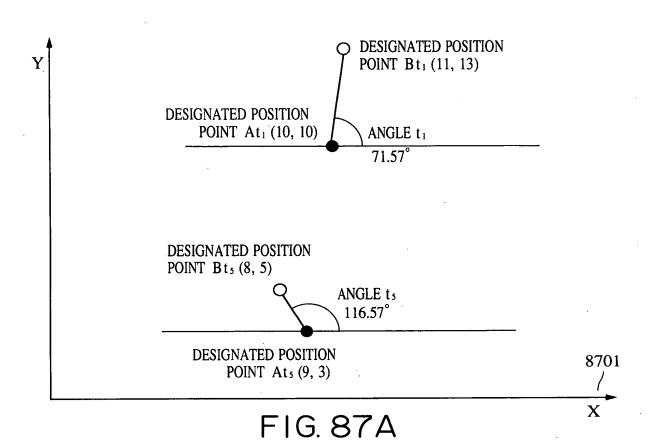


FIG. 86B



DESIGNATED POSITION POSITION DATA OF POINT A

		Ax	Ay
	t <sub>1</sub>	10.0	10.0
Ì	t <sub>2</sub>	9.8	8.0
	t <sub>3</sub>	9.6	6.0
	t <sub>4</sub>	9.3	5.0
	t <sub>5</sub>	9.0	3.0

FIG. 87B

DESIGNATED POSITION POSITION DATA OF POINT B

		Вx	Ву
I	$t_1$	11.0	13.0
	t <sub>2</sub>	10.8	9.0
	t <sub>3</sub>	10.6	7.0
	t <sub>4</sub>	10.3	6.0
	t <sub>5</sub>	8.0	5.0

8702

8703

FIG. 87C

#### DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
$t_1$	-1.0	-3.0	71.57	0.00
t <sub>2</sub>	-1.0	-1.0	45.00	26.57
t <sub>3</sub>	-1.0	-1.0	45.00	26.57
t <sub>4</sub>	-1.0	-1.0	45.00	26.57
t <sub>5</sub>	1.0	-2.0	116.57	45.00

FIG. 87D

#### **VERTICAL INVERSION**

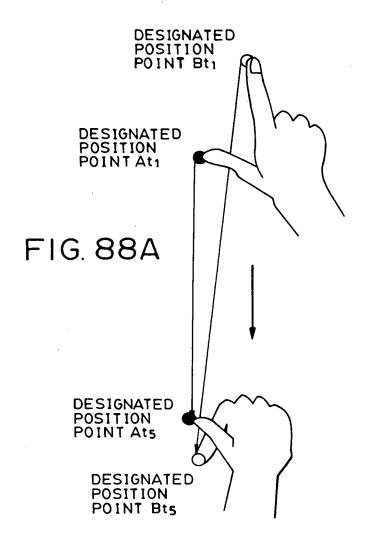
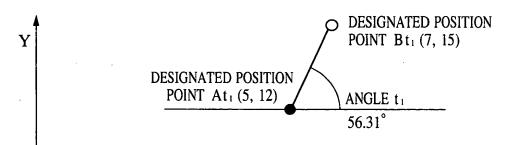


FIG. 88B



DESIGNATED POSITION
POINT Ats (5, 2)

ANGLE ts
-45.00°

### FIG. 89A

# DESIGNATED POSITION POSITION DATA OF POINT A

	Ax	Ay
t <sub>1</sub>	5.0	12.0
t <sub>2</sub>	5.0	9.0
t <sub>3</sub>	5.0	6.0
t <sub>4</sub>	5.0	3.0
t <sub>5</sub>	5.0	2.0

FIG. 89B

# DESIGNATED POSITION POSITION DATA OF POINT B

8901

-8902

8903

	B <sub>x</sub>	$\mathbf{B}_{\mathbf{Y}}$
$t_1$	7.0	15.0
t <sub>2</sub>	6.8	11.0
t <sub>3</sub>	6.5	8.0
t <sub>4</sub>	6.2	4.0
t <sub>5</sub>	6.0	1.0

FIG. 89C

### DATA OF CHANGE IN POSITIONAL RELATIONSHIP

	X DIRECTION	Y DIRECTION	ANGLE OF DESIGNATED POSITIONS	CHANGE IN POSITIONAL RELATIONSHIP
$t_1$	-2.0	-3.0	56.31	0.00
t <sub>2</sub>	-1.8	-2.0	48.01	8.30
t <sub>3</sub>	-1.5	-2.0	53.13	3.18
t <sub>4</sub>	-1.2	-1.0	39.81	16.50
t <sub>5</sub>	-1.0	1.0	-45.00	101.31

FIG. 89D

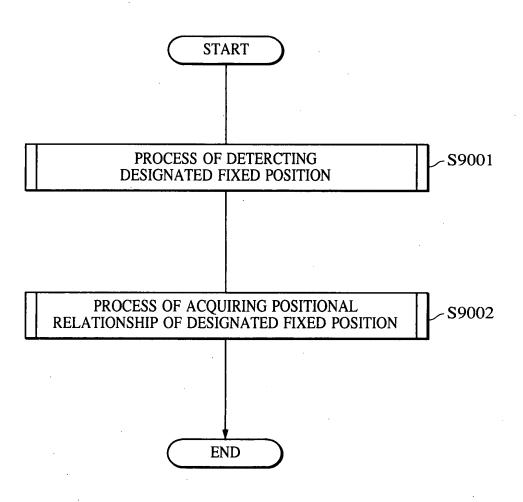


FIG. 90

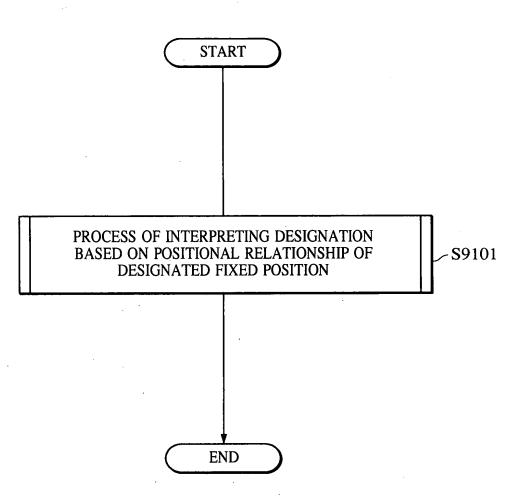
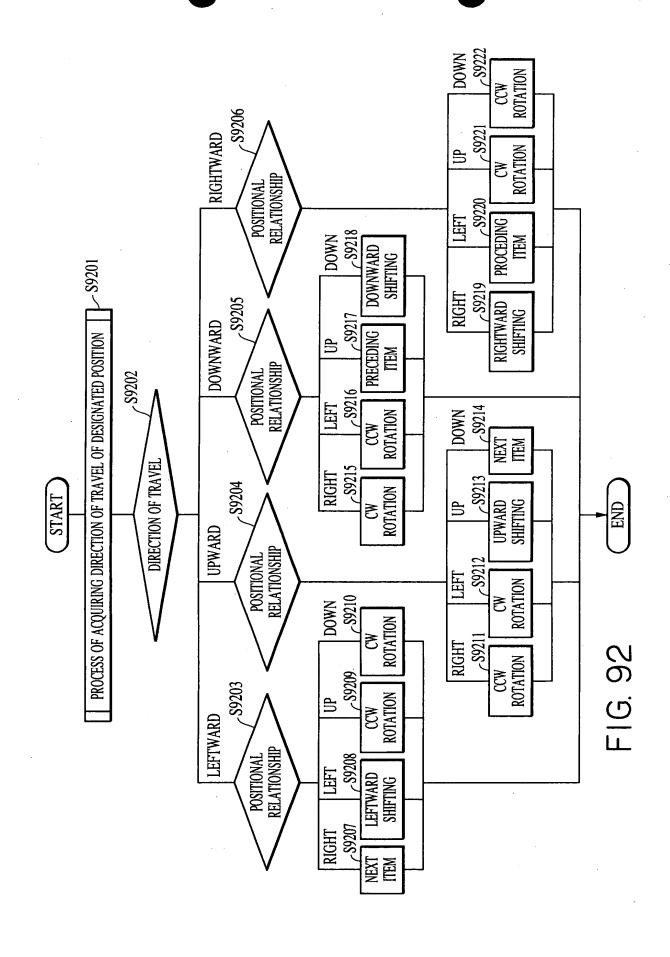


FIG. 91



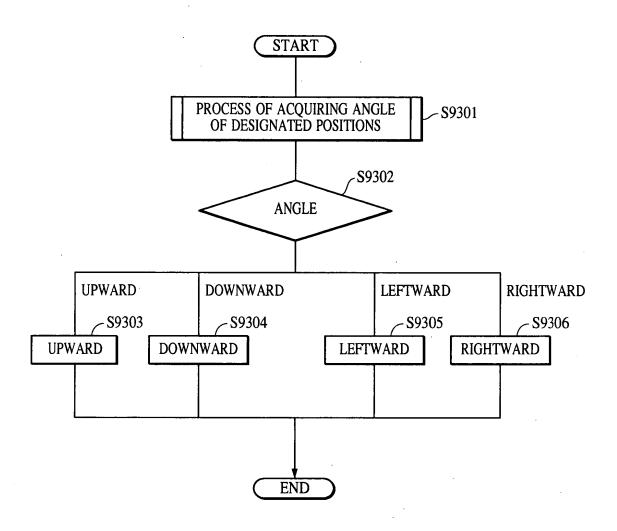


FIG. 93

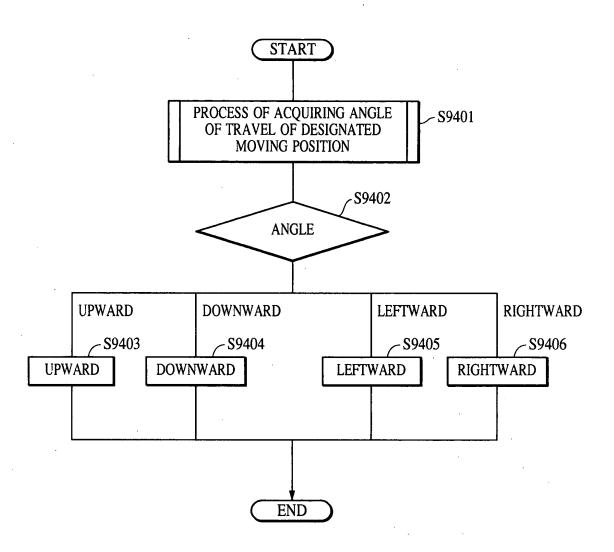
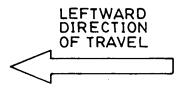
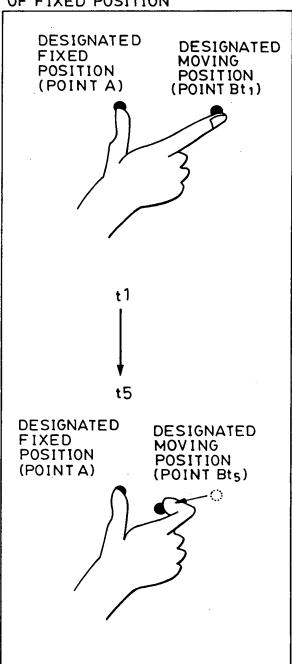


FIG. 94



### MOVING POSITION ON LEFT OF FIXED POSITION



MOVING POSITION ON RIGHT OF FIXED POSITION

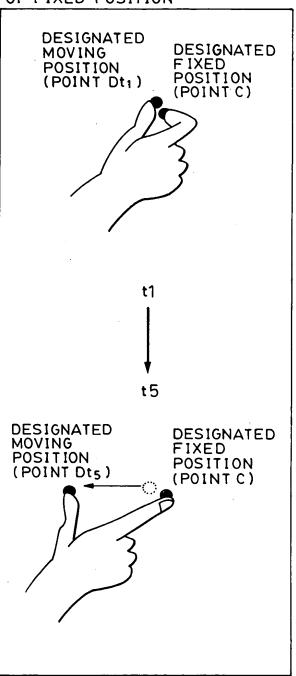
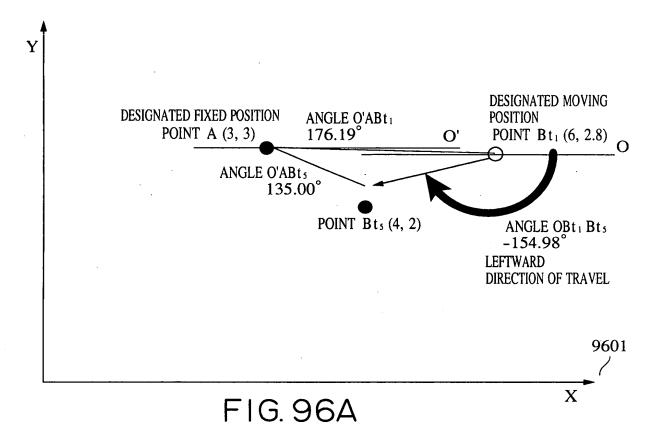


FIG. 95A

FIG. 95B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	A <sub>X</sub>	Ay
$t_1$	3	3
t <sub>2</sub>	3	3
t <sub>3</sub>	3	3
t4	3	3
t <sub>5</sub>	3	3

FIG. 96B

DESIGNATED MOVING POSITION POSITION DATA OF POINT B

-9602

9603

	Bx	BY
$t_1$	6.0	3.0
t <sub>2</sub>	5.3	2.3
t <sub>3</sub>	4.7	1.7
t <sub>4</sub>	4.3	1.2
t <sub>5</sub>	4.0	2.0

FIG. 96C

### DATA OF TRAVEL OF DESIGNATED MOVING POSITION

	TRAVEL OF POINT A	TRAVEL OF POINT B	ANGLE OF DESIGNATED POSITIONS	DIRECTION OF TRAVEL
t <sub>1</sub>	0.000	0.000	176.19	-158.20
t <sub>2</sub>	0.000	0.000	163.30	-154.98
t <sub>3</sub>	0.000	1.729	142.05	-154.98
t <sub>4</sub>	0.000	2.310	126.53	-154.98
t <sub>5</sub>	0.000	2.154	135.00	-154.98

FIG. 96D

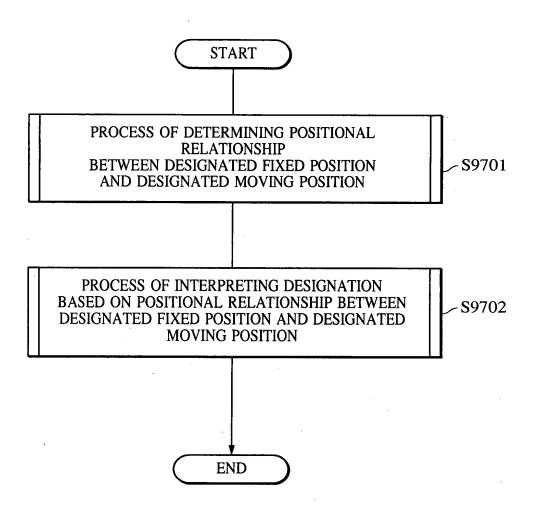


FIG. 97

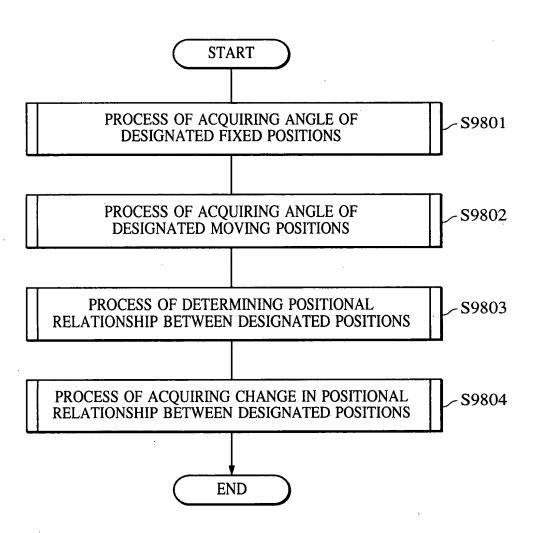


FIG. 98

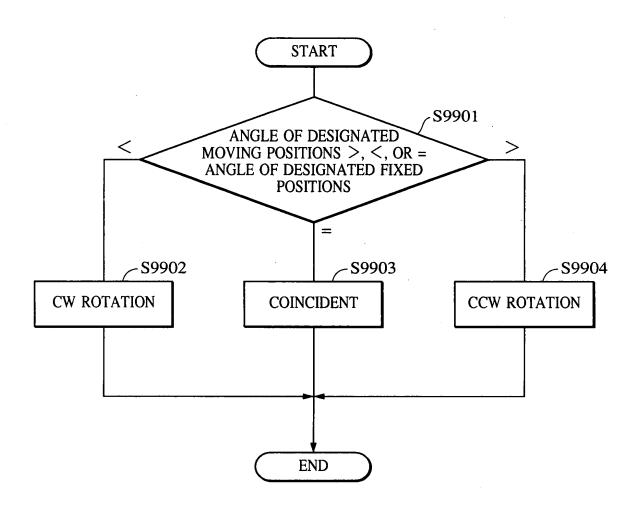


FIG. 99

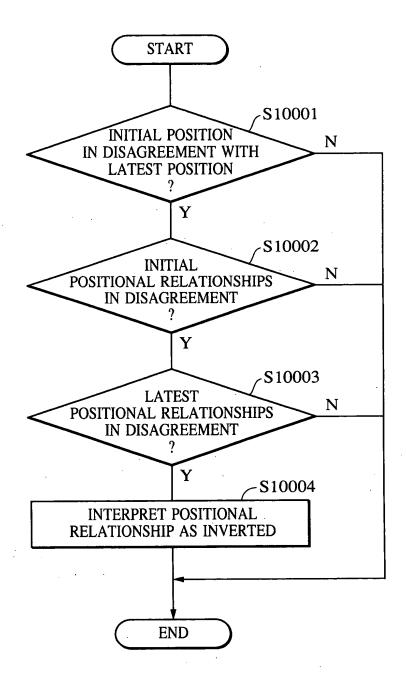


FIG. 100

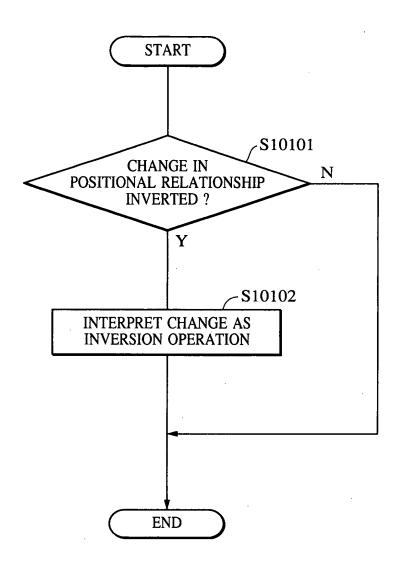
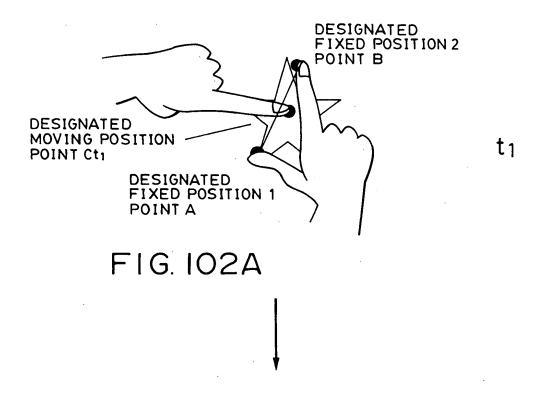


FIG. 101

#### SYMMETRICAL INVERSION



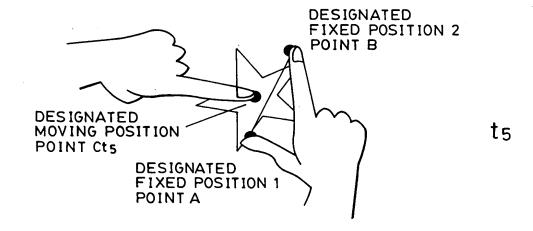
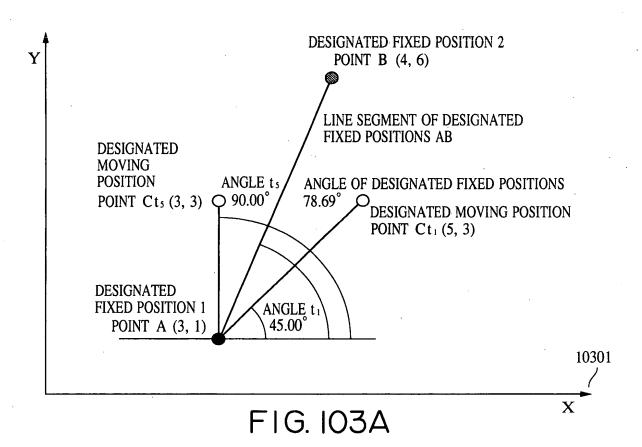


FIG. 102B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
t <sub>1</sub>	3.0	1.0
$t_2$	3.0	1.0
t <sub>3</sub>	3.0	1.0
t <sub>4</sub>	3.0	1.0
t <sub>5</sub>	3.0	1.0

DESIGNATED FIXED POSITION POSITION DATA OF POINT B

	Bx	Ву
$t_1$	4.0	6.0
t <sub>2</sub>	4.0	6.0
t <sub>3</sub>	4.0	6.0
t <sub>4</sub>	4.0	6.0
t <sub>5</sub>	4.0	6.0

**DESIGNATED MOVING POSITION** POSITION DATA OF POINT C

\_10302

	Cx	$\mathbf{C}_{\mathtt{Y}}$
$t_1$	5.0	3.0
t <sub>2</sub>	4.5	3.0
t <sub>3</sub>	4.0	3.0
t <sub>4</sub>	3.5	3.0
t5.	3.0	3.0

FIG. 103B FIG. 103C

FIG. 103D

 $\sim 10303$ 

POSITIONAL RELATIONSHIP DATA OF TWO DESIGNATED FIXED POSITIONS AND DESIGNATED MOVING POSITION

	ANGLE OF FIXED POSITIONS	ANGLE OF MOVING POSITIONS
t <sub>1</sub>	78.69	45.00
t <sub>2</sub>	78.69	53.13
t <sub>3</sub>	78.69	63.43
t <sub>4</sub>	78.69	75.96
t <sub>5</sub>	78.69	90.00

FIG. 103E

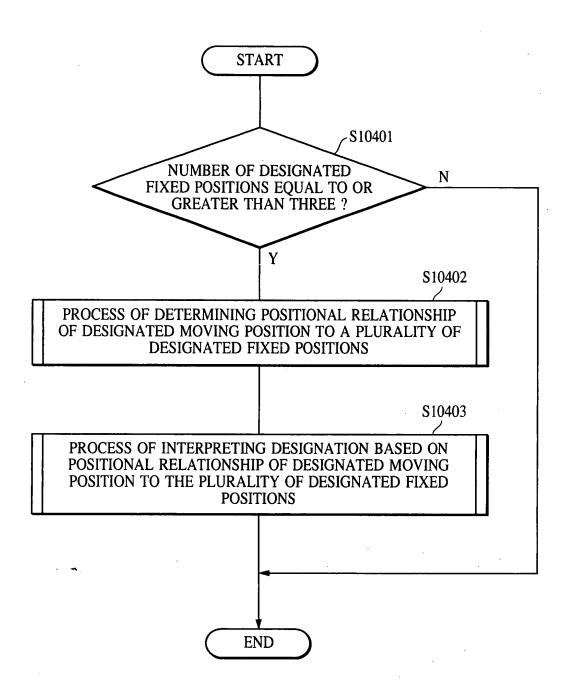


FIG. 104

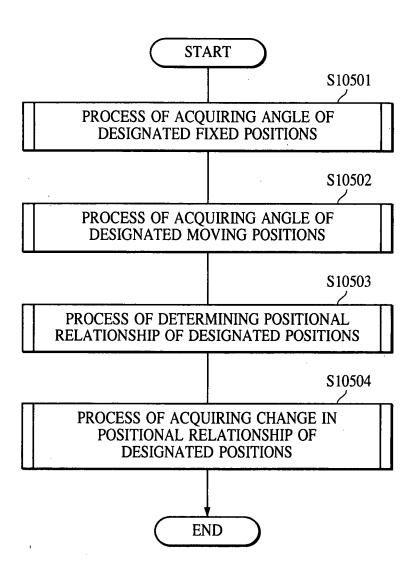
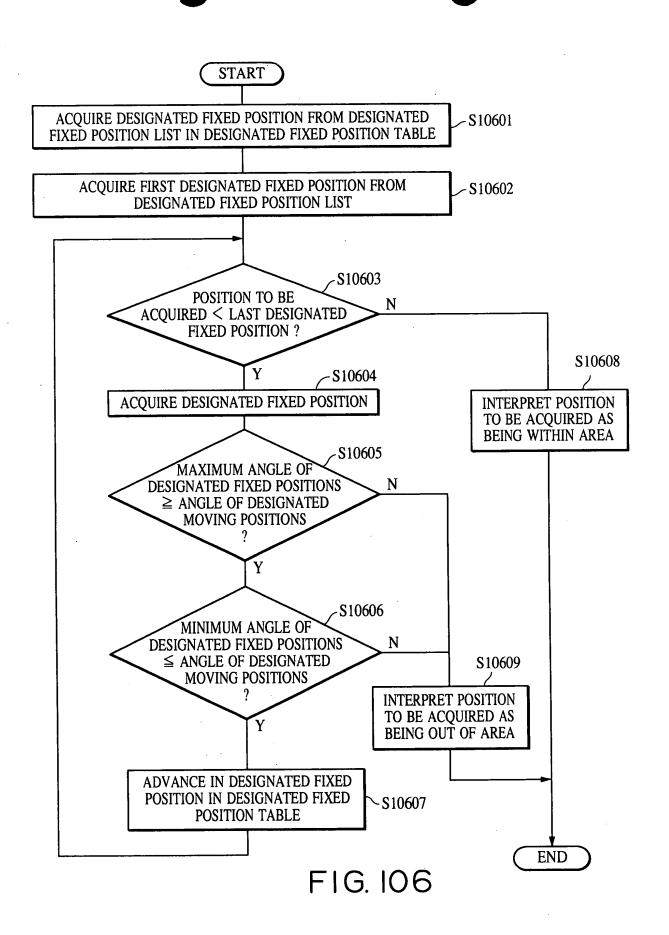


FIG. 105



### WITHIN AREA

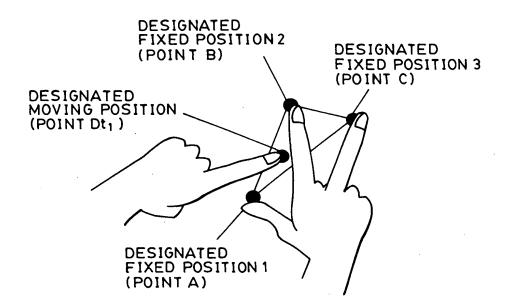
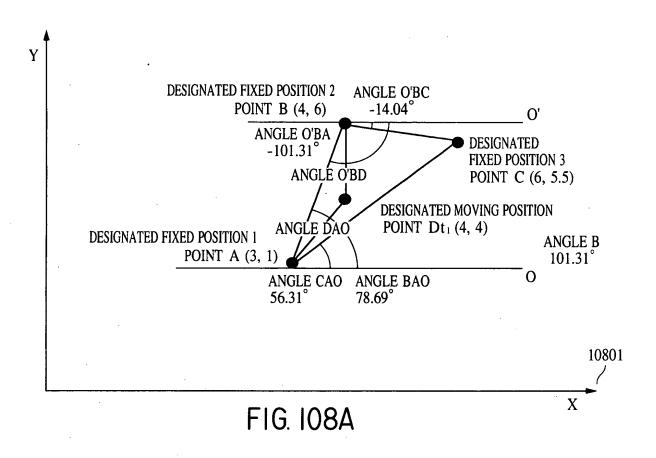


FIG. 107



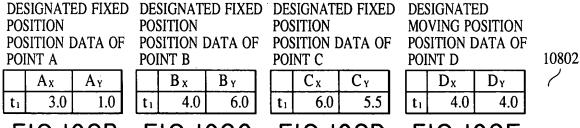


FIG. 108B FIG. 108C FIG. 108D FIG. 108E

DATA OF CHANGE IN POSITIONAL RELATIONSHIP OF DESIGNATED FIXED POSITIONS										
		ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD			
	$t_1$	78.69	56.31	71.57	-101.31	-14.04	-90.00			

FIG. 108F

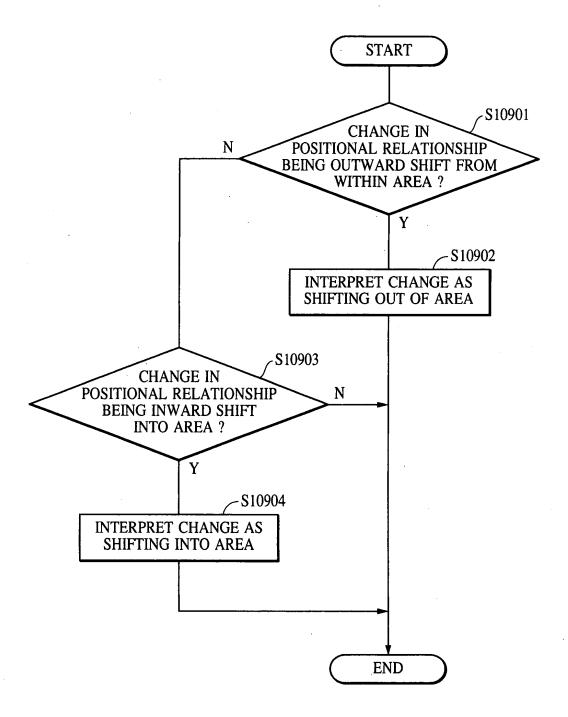


FIG. 109

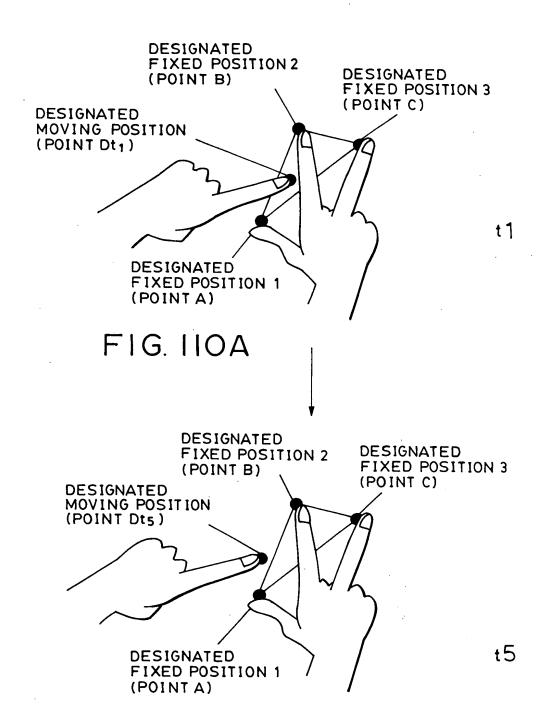
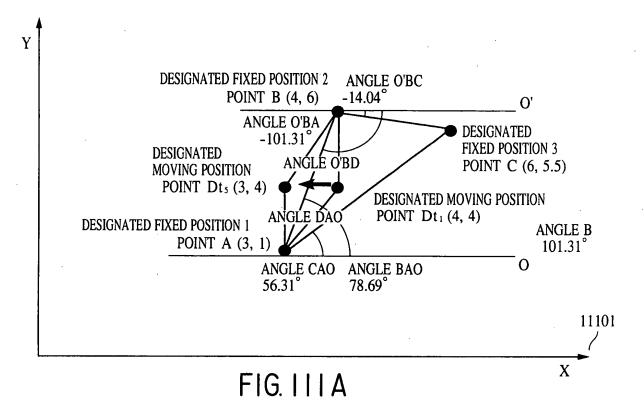


FIG. 110B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A			POS POS	SITION	ED FIXED DATA OF	D FIXED DESIGNATED FIXED POSITION ATA OF POINT C		MO POS	SIGNATE VING PO SITION D NT D	11102		
	Ax	$A_{Y}$		$\mathbf{B}_{\mathbf{x}_{\perp}}$	Вγ		Cx	CY		Dx	$D_{Y}$	
$t_1$	3.0	1.0	$t_1$	4.0	6.0	$t_1$	6.0	5.5	$t_1$	4.0	4.0	
t <sub>2</sub>	3.0	1.0	t <sub>2</sub>	4.0	6.0	t <sub>2</sub>	6.0	5.5	t <sub>2</sub>	3.8	4.0	
t <sub>3</sub>	3.0	1.0	t <sub>3</sub>	4.0	6.0	t <sub>3</sub>	6.0	5.5	t <sub>3</sub>	3.6	4.0	
t <sub>4</sub>	3.0	1.0	t <sub>4</sub>	4.0	6.0	t <sub>4</sub>	6.0	5.5	t <sub>4</sub>	3.3	4.0	
t <sub>5</sub>	3.0	1.0	t <sub>5</sub>	4.0	6.0	t <sub>5</sub>	6.0	5.5	. t <sub>5</sub>	3.0	4.0	

FIG. IIIB FIG. IIIC FIG. IIID FIG. IIIE

11103

DATA OF CHANGE IN POSITIONAL RELATIONSHIP OF DESIGNATED FIXED POSITIONS

	ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD
$t_1$	78.69	56.31	71.57	-101.31	-14.04	-90.00
t <sub>2</sub>	78.69	56.31	57.07	-101.31	-14.04	-95.71
t <sub>3</sub>	78.69	56.31	78.69	-101.31	-14.04	-101.31
t <sub>4</sub>	78.69	56.31	84.29	-101.31	-14.04	-109.29
t <sub>5</sub>	78.69	56.31	90.00	-101.31	-14.04	-116.57

FIG. IIIF

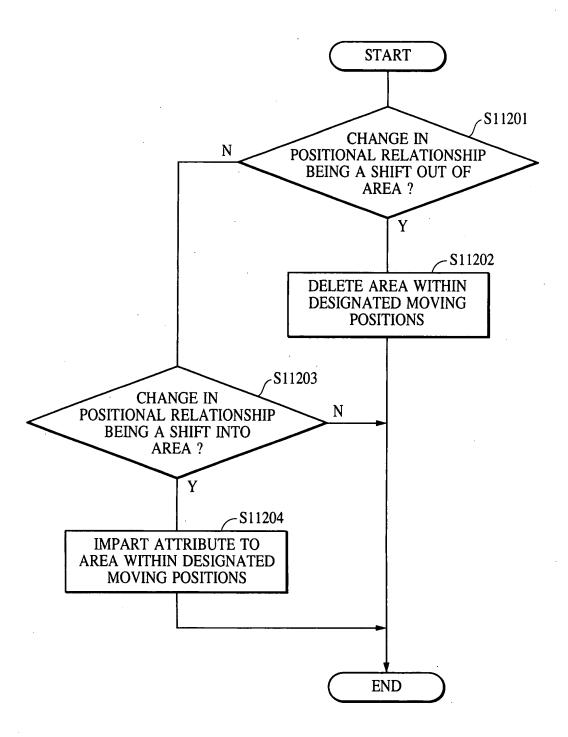
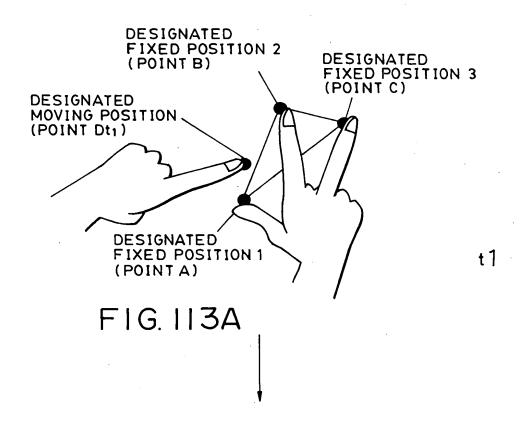


FIG. 112



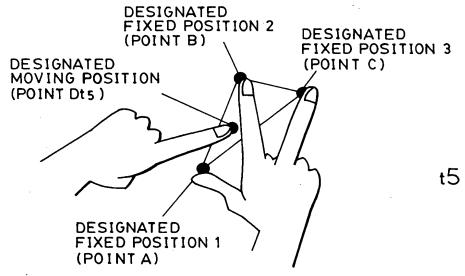
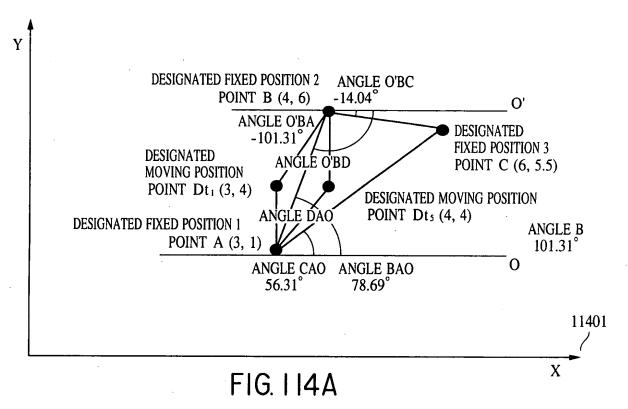


FIG. 113B



POS POS	NOITIS	ED FIXEI DATA OF	POS POS	DESIGNATED FIXED POSITION POSITION DATA OF POINT B			POSITION			DESIGNATED MOVING POSITION POSITION DATA OF POINT D		
	Ax	Ay		B <sub>x</sub>	ВΥ		Cx	Су		Dx	D <sub>Y</sub>	/
$t_1$	3.0	1.0	t <sub>1</sub>	4.0	6.0	$t_1$	6.0	5.5	t <sub>1</sub>	3.0	4.0	
t <sub>2</sub>	3.0	1.0	t <sub>2</sub>	4.0	6.0	t <sub>2</sub>	6.0	5.5	t <sub>2</sub>	3.3	4.0	
t <sub>3</sub>	3.0	1.0	t <sub>3</sub>	4.0	6.0	t <sub>3</sub>	6.0	5.5	t <sub>3</sub>	3.6	4.0	
t <sub>4</sub>	3.0	1.0	t <sub>4</sub>	4.0	6.0	t <sub>4</sub>	6.0	5.5	t <sub>4</sub>	3.8	4.0	
t <sub>5</sub>	3.0	1.0	t <sub>5</sub>	4.0	6.0	t <sub>5</sub>	6.0	5.5	t <sub>5</sub>	4.0	4.0	
F	ان ا	IAB			140		IC 1	IND		IC I		

FIG. 114B FIG. 114C FIG. 114D FIG. 114E

*-*11403

DA.	DATA OF CHANGE IN POSITIONAL RELATIONSHIP							
	ANGLE BAO	ANGLE CAO	ANGLE DAO	ANGLE O'BA	ANGLE O'BC	ANGLE O'BD		
$t_1$	78.69	56.31	90.00	-101.31	-14.04	-116.57		
$t_2$	78.69	56.31	84.29	-101.31	-14.04	-109.29		
t <sub>3</sub>	78.69	56.31	78.69	-101.31	-14.04	-101.31		
t <sub>4</sub>	78.69	56.31	75.07	-101.31	-14.04	-95.71		
t <sub>5</sub>	78.69	56.31	71.57	-101.31	-14.04	-90.00		

FIG. 114F

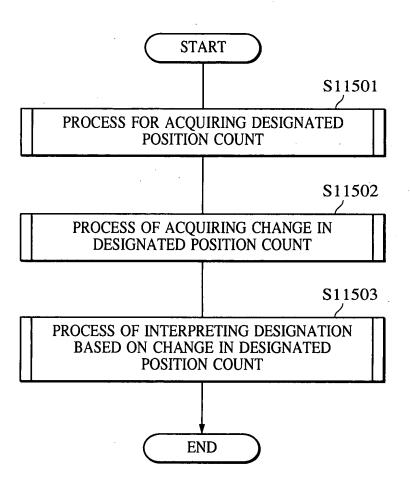


FIG. 115

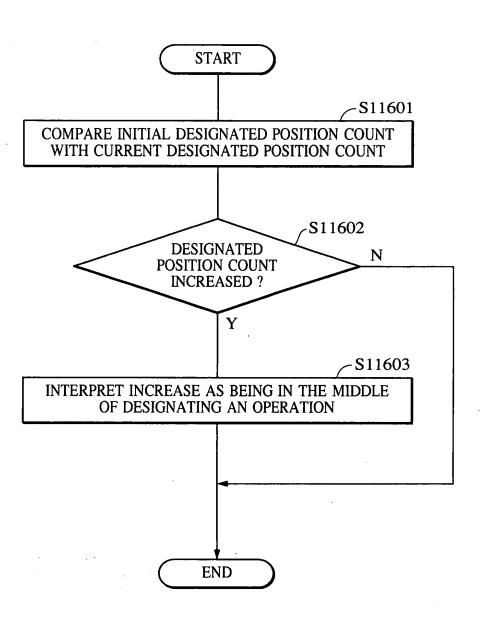


FIG. 116



INITIAL DESIGNATED POSITION POINT At<sub>1</sub> INITIAL
DESIGNATED
POSITION
POINT Bt<sub>1</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of intraction used as elements of the beautiful to be generated i cted from the input aion and the retrieved in ation relating osequently, a describing r, in ehic ded elements of the Then, a text to be text are d output is of the selected elements of the te escribing order.

### FIG. 117A

TIME t<sub>2</sub>

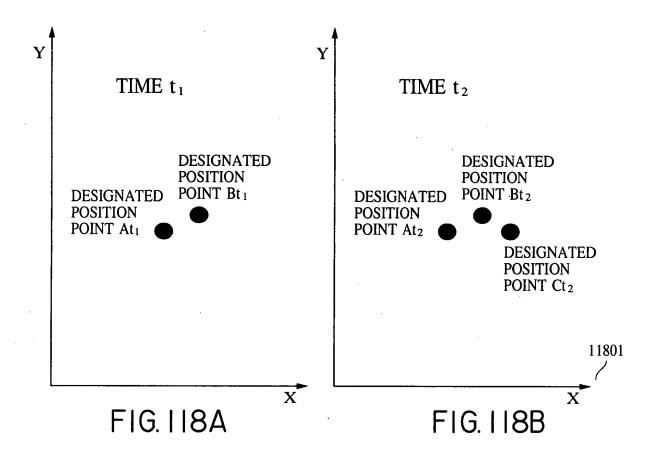
DESIGNATED POSITION POINT At<sub>2</sub>

DESIGNATED POSITION POINT Bt<sub>2</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of in action used as elements of to be generated ected from the input ation and the retrieved i mation relating ubsequently, a er, in ehic describing ed elements whie text are Tements output i of the t noing order.

DESIGNATED POSITION POINT Ct<sub>2</sub>

FIG. 117B



DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	A <sub>x</sub>	A <sub>Y</sub>
t <sub>1</sub>	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0

N FIXED POSITION
A POSITION DATA
OF POINT B

	$\mathbf{B}_{\mathbf{x}}$	Ву
$\mathbf{t}_1$	4.0	4.0
t <sub>2</sub>	4.0	4.0
t <sub>3</sub>	4.0	4.0

**DESIGNATED** 

DESIGNATED FIXED POSITION POSITION DATA OF POINT C

	Cx	Cy
$\mathbf{t}_1$		
t <sub>2</sub>	5.0	3.0
t <sub>3</sub>	5.0	3.0

<sub>/</sub>11802

FIG. 118C

FIG. 118D

FIG. 118E

11803

DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
$t_1$	2	0
t <sub>2</sub>	3	1
t <sub>3</sub>	3	1

FIG. 118F

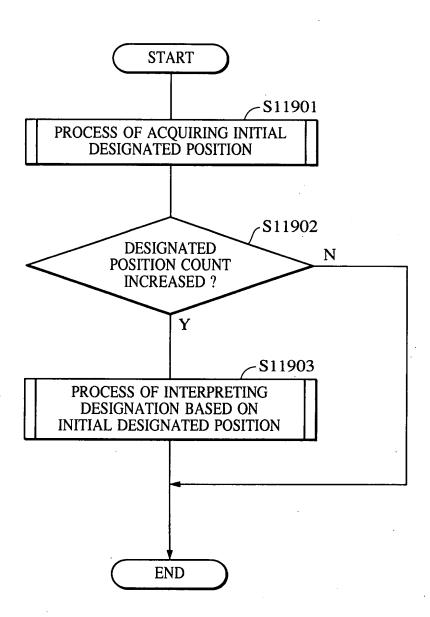


FIG. 119

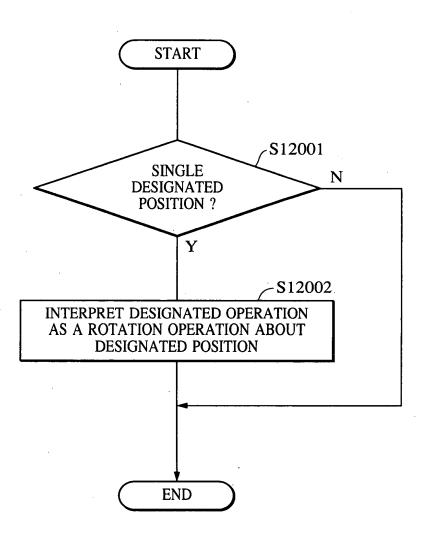


FIG. 120



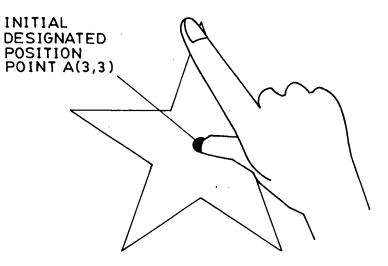


FIG. 121A

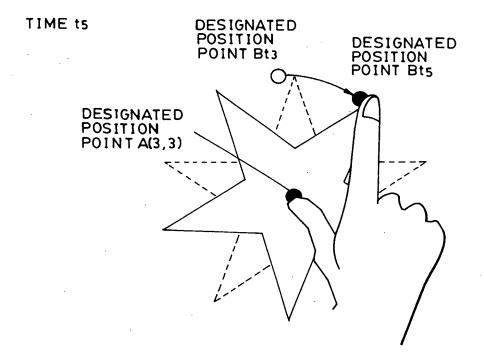


FIG. 121B

POINT Bt<sub>3</sub>(6, 2.8) POINT Bt<sub>4</sub>(5.6, 3.5)

POINT Bt<sub>5</sub>(5.2, 4.2)

POINT Bt<sub>6</sub>(5, 5)

DESIGNATED POSITIONS
POINTS At<sub>1</sub> $\sim$ t<sub>6</sub>(3, 3)

FIG. 122A

## DESIGNATED POSITION POSITION DATA OF POINT A

	Ax	$\mathbf{A}_{\mathbf{Y}}$
$t_1$	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0
t <sub>4</sub>	3.0	3.0
t <sub>5</sub>	3.0	3.0
t <sub>6</sub>	3.0	3.0

FIG. 122B

# DESIGNATED POSITION POSITION DATA OF POINT B

	$\mathbf{B}_{\mathbf{x}}$	$\mathbf{B}_{\mathtt{Y}}$
$t_1$		
t <sub>2</sub>		
t <sub>3</sub>	6.0	2.8
t4	5.6	3.5
t <sub>5</sub>	5.2	4.2
t <sub>6</sub>	5.0	5.0

FIG. 122C

#### DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
t <sub>1</sub>	1	0
t <sub>2</sub>	1	0
t <sub>3</sub>	2	1
t <sub>4</sub>	2	1
t <sub>5</sub>	2	1
t <sub>6</sub>	2	1

- 12203

- 12202

FIG. 122D

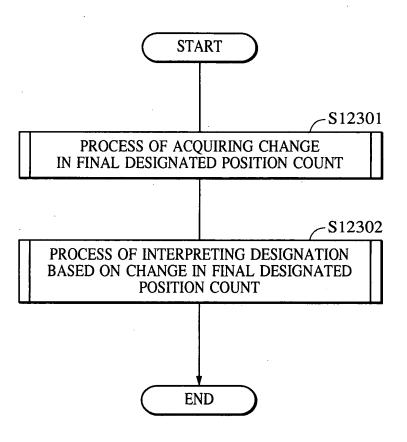


FIG. 123

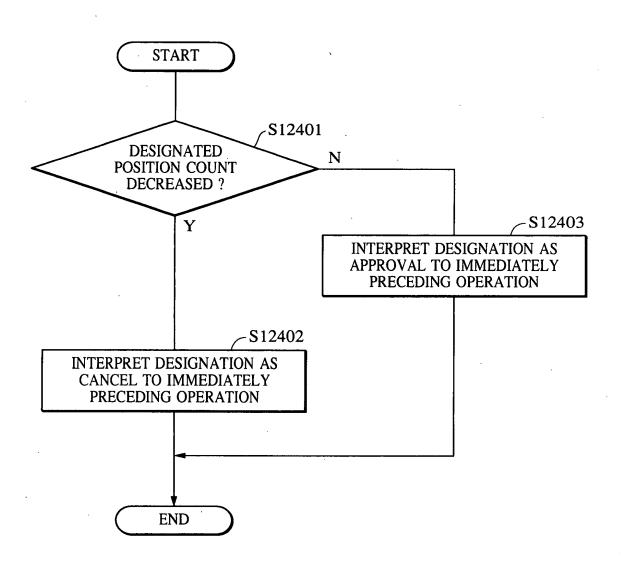


FIG. 124



DESIGNATED POSITION POINT At<sub>1</sub>

DESIGNATED POSITION POINT Bt<sub>1</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of in mation used as elements of to be ected from the input alon and the generated retrieved il nation relating ubsequently, a describing er, in ehick ed elements whie text are output i elements

DESIGNATED POSITION POINT Ct<sub>1</sub>

FIG. 125A

TIME t<sub>2</sub>

DESIGNATED POSITION POINT At<sub>2</sub>

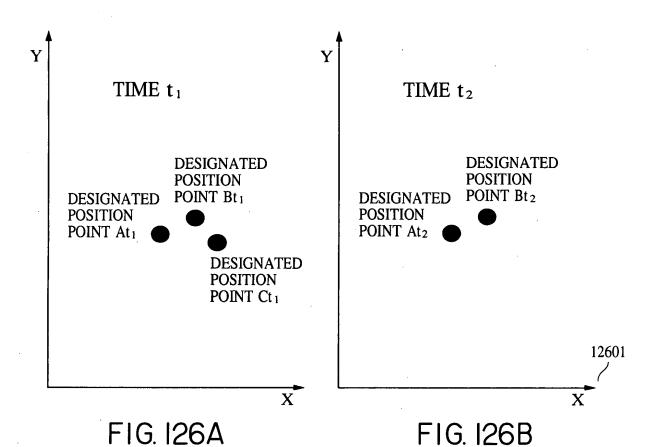
of the t

DESIGNATED POSITION POINT Bt<sub>2</sub>

oing order.

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. Then, a plurality of kinds of intraction used as elements of the beautiful to be kinds of inf cted from the input generated i ation and the retrieved in ation relating bsequently, a r, in ehic ed elements of the describing Then, a text to be text are d output is of the selected elements of the te scribing order.

FIG. 125B



DESIGNATED POSITION POSITION DATA OF POINT A

	Ax	Ay
$\mathbf{t}_1$	3.0	3.0
$t_2$	3.0	3.0

FIG. 126C

DESIGNATED POSITION POSITION DATA OF POINT B

	$\mathbf{B}_{\mathbf{x}}$	Ву
$t_1$	4.0	4.0
t <sub>2</sub>	4.0	4.0

FIG. 126D

DESIGNATED POSITION POSITION DATA OF POINT C

	Cx	Су
$t_1$	5.0	3.0
t <sub>2</sub>		

- 12602

FIG. 126E

- 12603

DATA OF DESIGNATED POSITION COUNT

	DESIGNATED POSITION COUNT	CHANGE IN INITIAL DESIGNATED POSITION COUNT
$t_1$	3	0
t <sub>2</sub>	2	-1

FIG. 126F

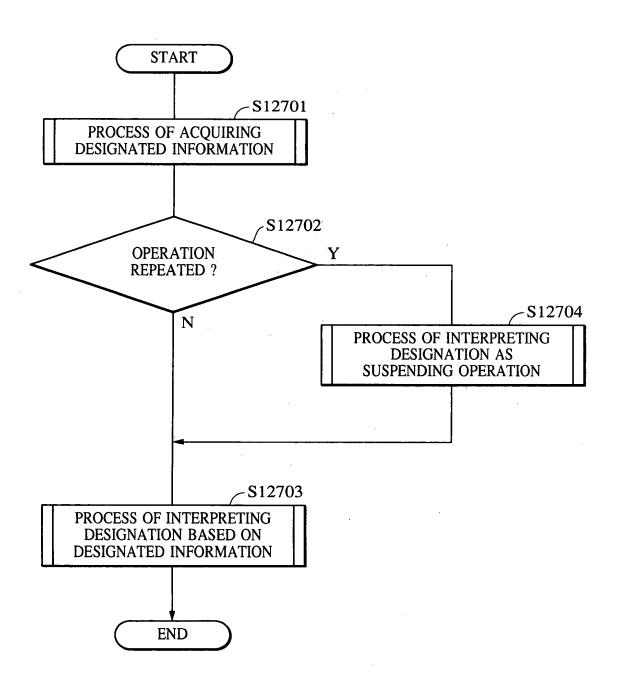


FIG. 127

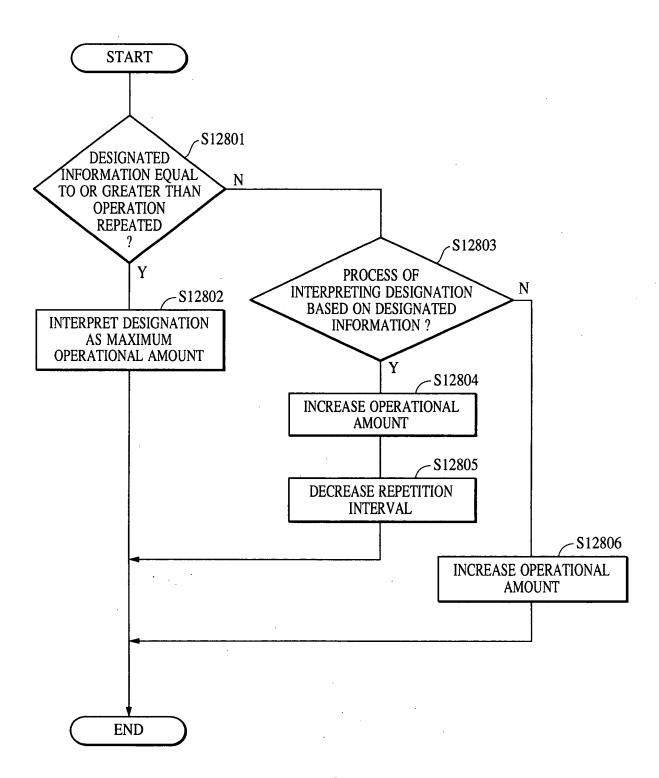


FIG. 128

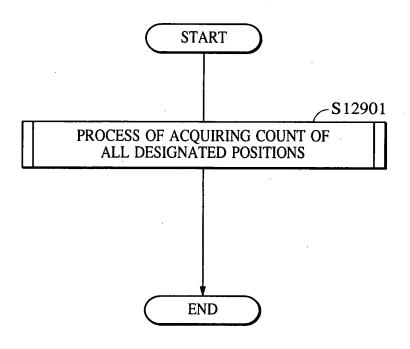
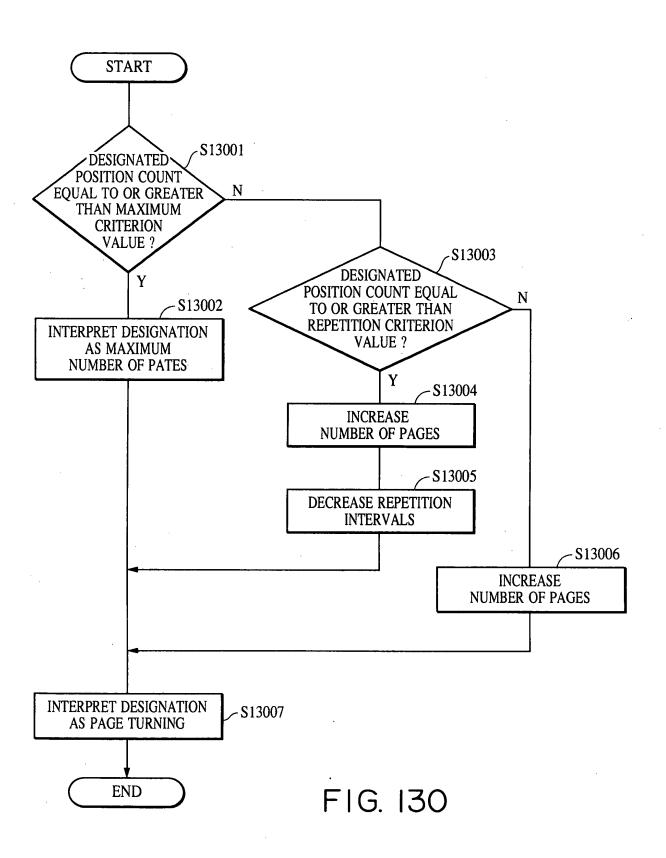
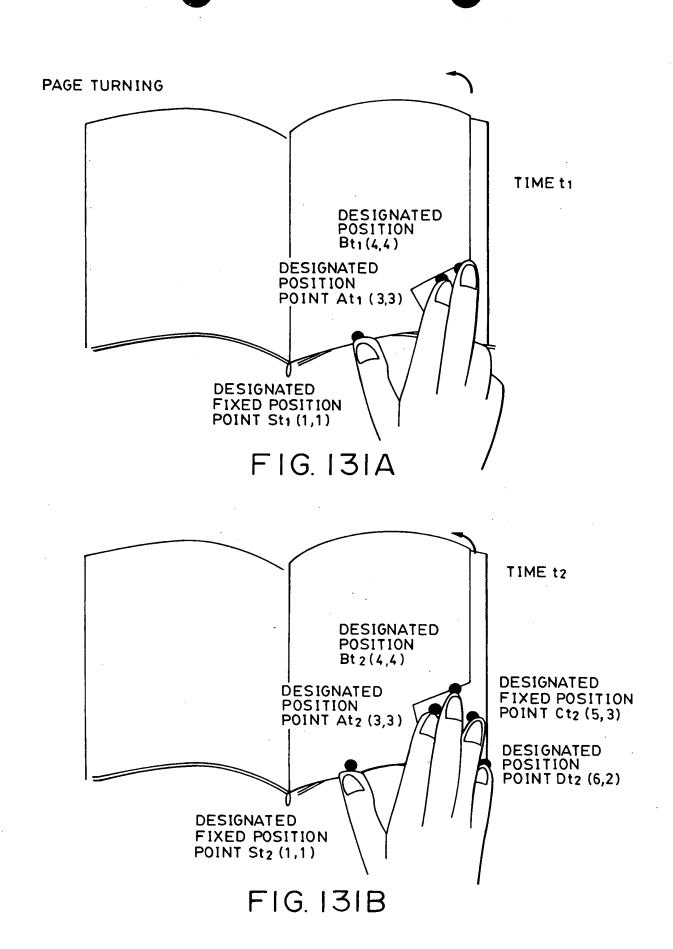
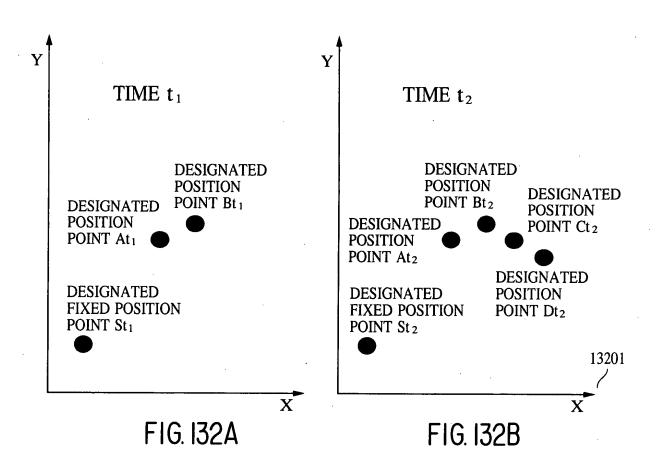


FIG. 129







DESIGNATED							
FIX	FIXED POSITION						
PO	SITION	DATA					
OF	OF POINT S						
S <sub>X</sub> S <sub>Y</sub>							
$t_1$	1.0	1.0					

DESIGNATED									
POSITION									
POS	SITION	DATA							
OF	POINT	Α							
A <sub>X</sub> A <sub>Y</sub>									
$t_1$	3.0	3.0							
t <sub>2</sub> 3.0 3.0									

DESIGNATED POSITION POSITION DATA								
OF	OF POINT B  B <sub>X</sub> B <sub>Y</sub>							
tı	<del>                                     </del>							
t <sub>2</sub>	1 10 10							
	_							

	DESIGNATED POSITION POSITION DATA							
	OF POINT C							
	$C_X C_Y$							
	tı							
	t <sub>2</sub> 5.0 3.0							
,	<del></del>							

DE	SIGNA	ΓED	
POS	SITION		
POS	SITION	${\bf DATA}$	<sub>~</sub> 13202
OF	POINT	D	15202
	Dx	D <sub>Y</sub>	
t <sub>1</sub>			
f.	60	2.0	

FIG. 132C FIG. 132D FIG. 132E FIG. 132F FIG. 132G

I	)AT	<sub>/</sub> 13203		
		INCREASE IN NUMBER	TOTAL NUMBER	]
	$t_1$	2	3	1
	t <sub>2</sub>	2	5	

FIG. 132H

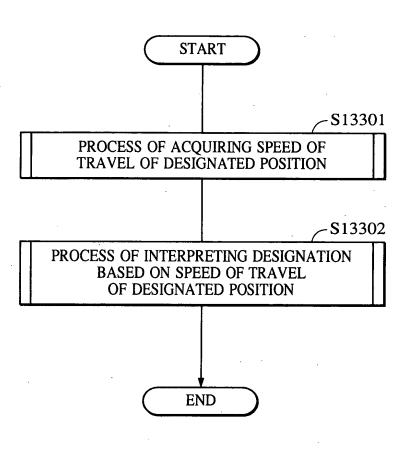


FIG. 133

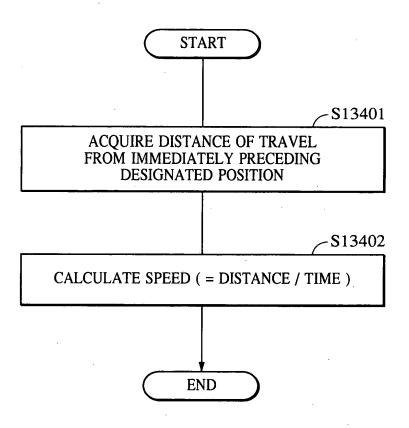
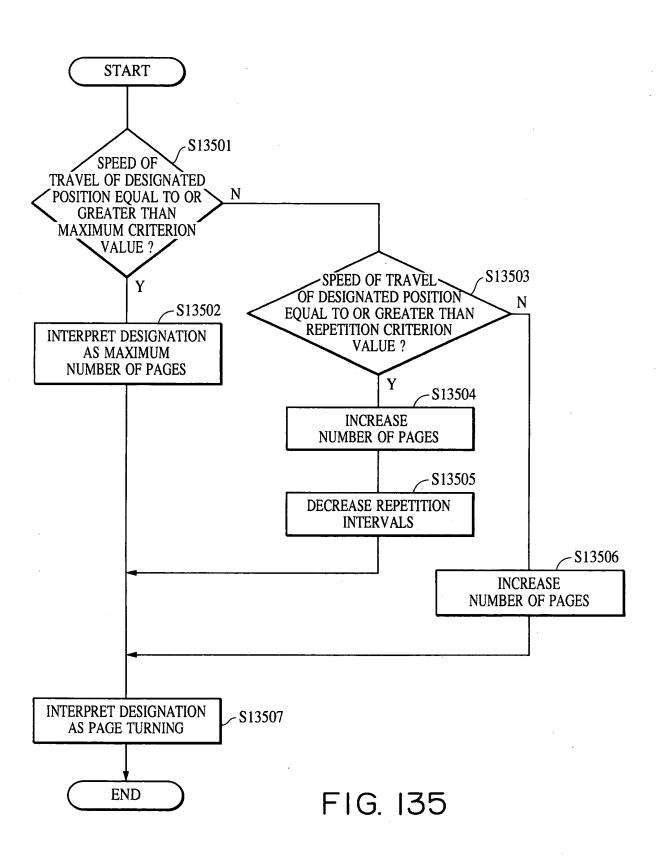
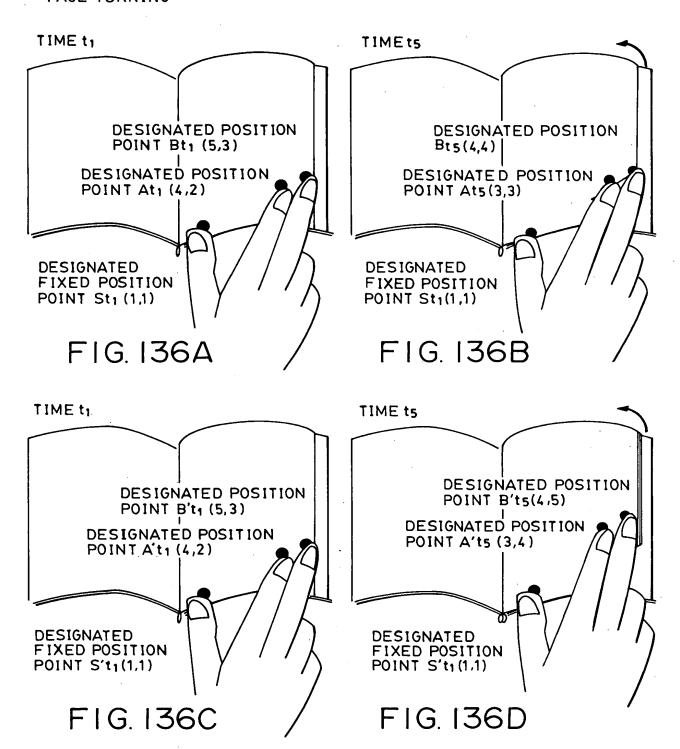


FIG. 134



### PAGE TURNING



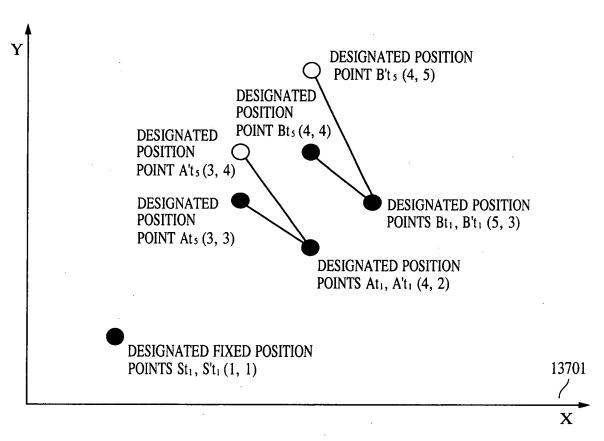


FIG. 137A

13702	_						
DESIGNATED POSITION POSITION DATA OF POINT R'	B'x B'y	t <sub>1</sub> 5.0 3.0	t <sub>2</sub> 4.8 3.4	t <sub>3</sub> 4.6 3.8	t <sub>4</sub> 4.4 4.2	t <sub>5</sub> 4.0 5.0	F1G. 137F
DESIGNATED POSITION POSITION DATA OF POINT A'	A'x A'x	t <sub>1</sub> 4.0 2.0	t <sub>2</sub> 3.8 2.4	t <sub>3</sub> 3.6 2.8	t <sub>4</sub> 3.4 3.2	t <sub>5</sub> 3.0 4.0	• . •
DESIGNATED POSITION POSITION DATA OF POINT B	B <sub>X</sub> B <sub>Y</sub>	t <sub>1</sub> 5.0 3.0	$t_2   4.8   3.2$	t <sub>3</sub> 4.6 3.4	t <sub>4</sub> 4.4 3.6	$t_5   4.0   4.0$	FIG. 137D
DESIGNATED POSITION POSITION DATA OF POINT A	Ax Ax	$ \mathbf{t}_1     4.0     2.0 $	$ \mathbf{t}_2 $ 3.8 2.2	t <sub>3</sub> 3.6 2.4	t <sub>4</sub> 3.4 2.6	$ \mathbf{t}_{5} $ 3.0 3.0	F16. 137C
DESIGNATED FIXED POSITION POSITION DATA OF POINT S	Sx Sy	$t_1   1.0   1.0$	$t_2   1.0   1.0$	t <sub>3</sub> 1.0 1.0	t <sub>4</sub> 1.0 1.0	$ \mathbf{t}_{5}  1.0   1.0$	F1G. 137B

13703

DATA OF SPEED OF TRAVEL OF DESIGNATED POSITION

		,	_		
SPEED OF RATE OF INCREASE POINT B' OF SPEED OF POINT B'			1.00	1.00	
SPEED OF POINT B'	0.000	0.447	0.447	0.447	0.559
SPEED OF RATE OF INCREASE POINT A' OF SPEED OF POINT A'			1.00	1.00	1.25
SPEED OF POINT A'	0.000	0.447	0.447	0.447	0.559
SPEED OF RATE OF INCREASE POINT B OF SPEED OF POINT B	0.0		1.00	1.00	1.00
SPEED OF POINT B	0.000	0.283	0.283	0.283	0.283
POINT A OF SPEED OF POINT A			1.00	1.00	1.25
SPEED OF POINT A	0.000	0.283	0.283	0.283	0.354
	<b>t</b> 1	t2	t3	t <sub>4</sub>	ts

FIG. 137G

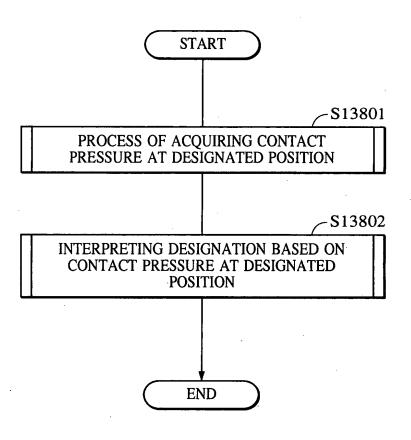
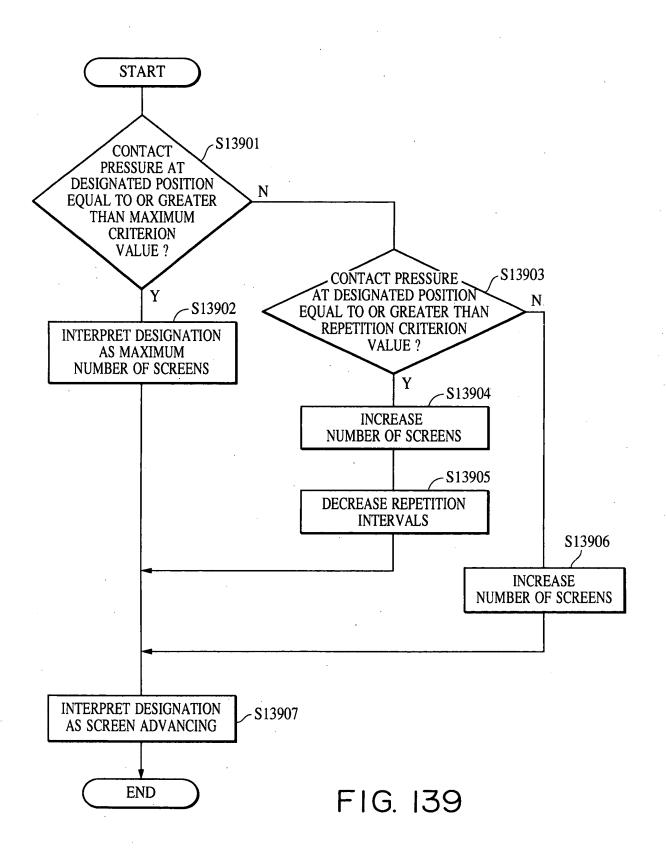


FIG. 138



### SCREEN SHIFTING

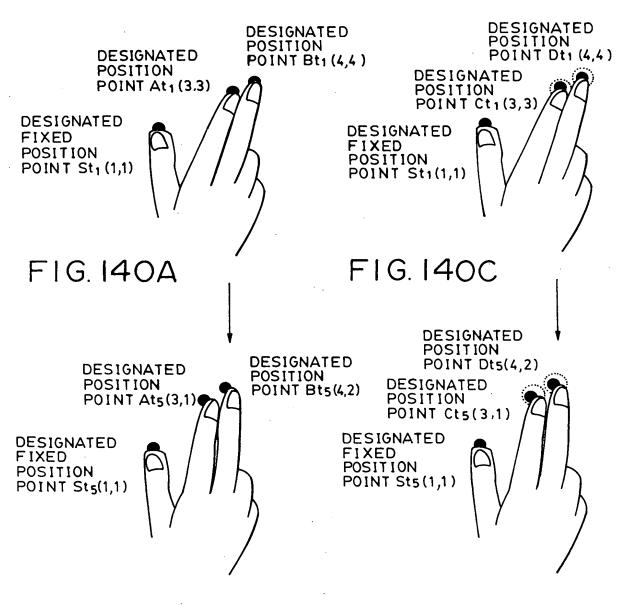


FIG. 140B

FIG. 140D

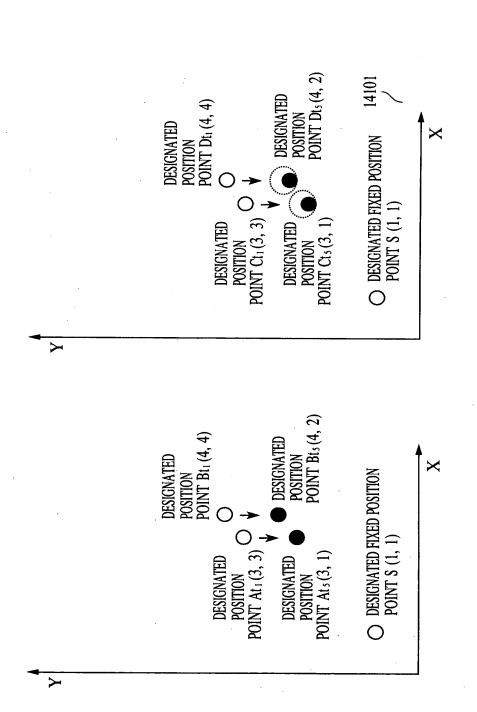


FIG. 141A

FIG. 141B

14102			
DESIGNATED POSITION POSITION DATA OF POINT D	x D <sub>Y</sub>	0.0 3.6 0.0 3.2 0.0 2.8	[t <sub>5</sub>   4.0   2.0   7   16.   14   16
DESIGI POSITI OF POI	t <sub>1</sub>	t <sub>2</sub> 4 4 4 4	FIG.
DESIGNATED POSITION POSITION DATA OF POINT C	C <sub>x</sub> C <sub>y</sub> t <sub>1</sub> 3.0 3.0	t <sub>2</sub> 3.0 2.6 t <sub>3</sub> 3.0 2.2 t <sub>4</sub> 3.0 1.8	[ts 3.0 1.0] FIG. 14 IF
DESIGNATED POSITION POSITION DATA OF POINT B	B <sub>x</sub> B <sub>y</sub> t <sub>1</sub> 4.0 4.0	t <sub>3</sub> 4.0 3.6 t <sub>3</sub> 4.0 3.2 t <sub>4</sub> 4.0 2.8	[t <sub>5</sub> 4.0 2.0] FIG.   4   E
DESIGNATED POSITION POSITION DATA OF POINT A	Ax Ay t <sub>1</sub> 3.0 3.0	t <sub>2</sub> 3.0 2.6 t <sub>3</sub> 3.0 2.2 t <sub>4</sub> 3.0 1.8	[t <sub>5</sub> 3.0 1.0] FIG.   4 ID
DESIGNATED FIXED POSITION POSITION DATA OF POINT S	S <sub>x</sub> S <sub>y</sub> t <sub>1</sub> 1.0 1.0	t <sub>3</sub> 1.0 1.0 t <sub>4</sub> 1.0 1.0 t <sub>4</sub> 1.0 1.0	[ts 1.0 1.0] FIG. 14 IC

DATA OF CONTACT PRESSURE AT DESIGNATED POSITION

14103

	CONTACT	CONTACT	CONTACT	CONTACT	CONTACT
	PRESSURE	PRESSURE	PRESSURE	PRESSURE	<b>PRESSURE</b>
	AT POINT S	AT POINT A	AT POINT B	AT POINT C	AT POINT D
t,	001	100	100	100	100
t2	501	105	105	140	140
t <sub>3</sub>	110	110	110	160	160
t4	501	105	105	190	190
ts	100	100	100	210	210

FIG. 141H

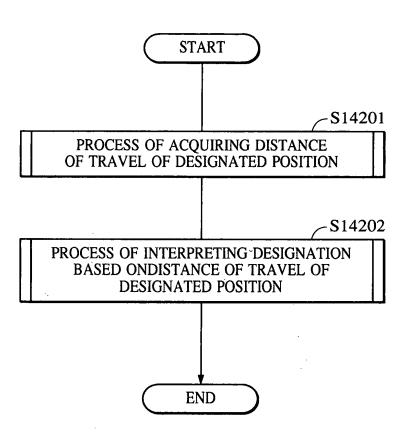
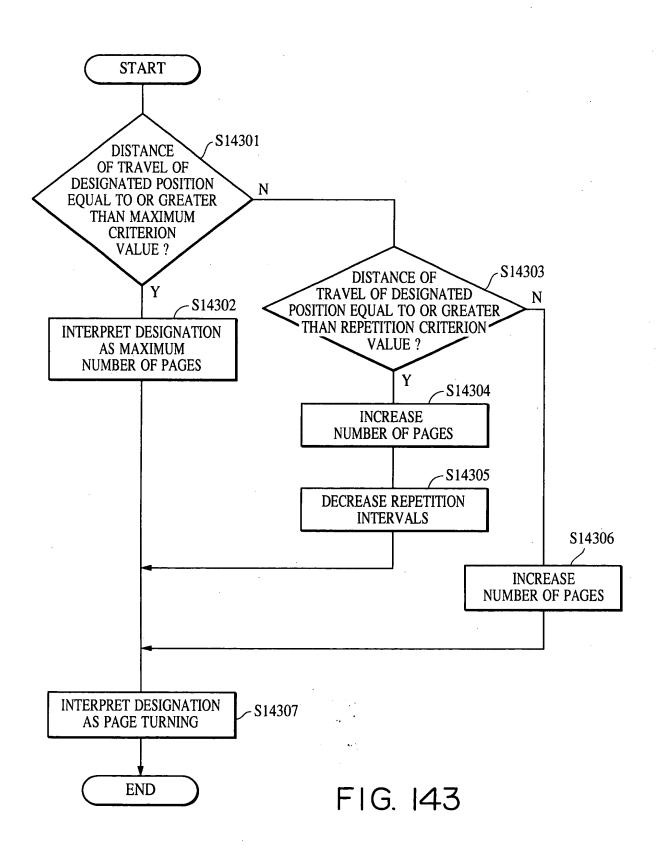
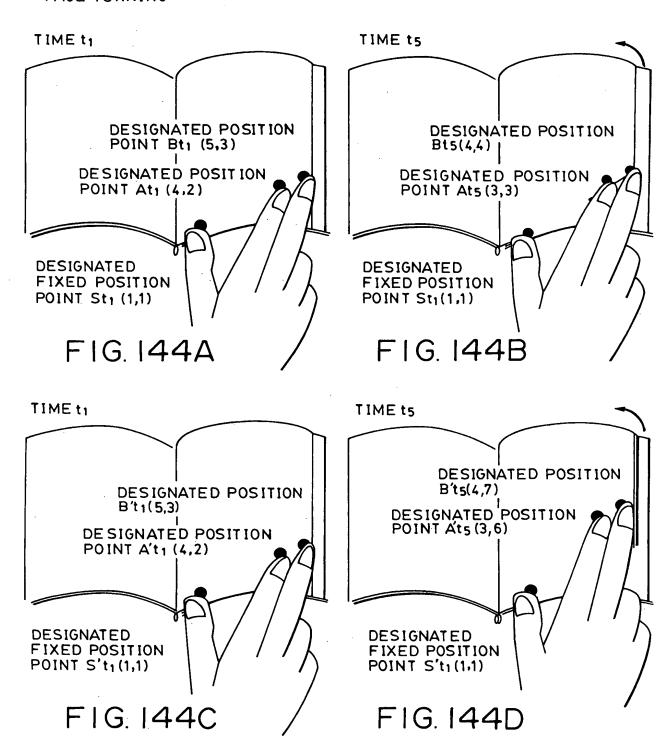


FIG. 142



## PAGE TURNING



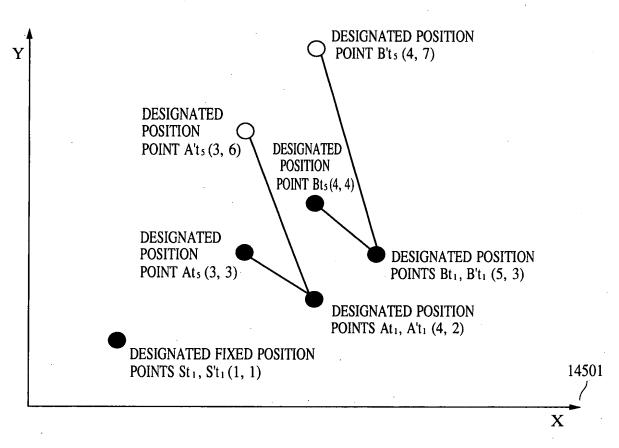


FIG. 145A

14502							
ED DATA B'	B'Y	3.0	3.8	4.6	5.4	7.0	45F
DESIGNATED POSITION POSITION DATA OF POINT B'	B'x	5.0	4.8	4.6	4.4	4.0 7.0	=16.14
DES POS POS OF I		Ţ	t <sub>2</sub>	t3	t4	ts	豆
<b>-</b>		· <u>.</u>	1				ш
TED DAT/	$A'_{\Upsilon}$	2.0	2.8	3.6	4.4	0:9	45
DESIGNATED POSITION POSITION DATA DF POINT A'	A'x	4.0	3.8	3.6	3.4	3.0	F16. 1451
E S S F		ţ	t <sub>2</sub>	t3	t <sub>4</sub>	ts	<u> </u>
TED DAT/	$B_{\gamma}$	3.0	3.2	3.4	3.6	4.0	45
DESIGNATED POSITION POSITION DATA OF POINT B	Вх	5.0	4.8	4.6	4.4	4.0	F16. 145[
# S S P		t <sub>1</sub>	t <sub>2</sub>	t <sub>3</sub>	t4	t <sub>5</sub>	
_							$\circ$
DESIGNATED POSITION POSITION DATA OF POINT A	Ay	2.0	2.2	2.4	2.6	3.0	16.1450
IGNA' ITION ITION	Ax	4.0	3.8	3.6	3.4	3.0	<u>.</u>
DES POS POS OF I		t <sub>1</sub>	t <sub>2</sub>	t <sub>3</sub>	t4	ts	豆
ZA		· .					В
TED SSITIO V DAT,	Sγ	1.0	0.1	1.0	1.0	1:0	45
JESIGNATED TXED POSITION OSITION DATA JF POINT S	Sx	1.0	1.0	1.0	1.0	1.0	G. 145E
E E E E		t <u>.</u>	t <sub>2</sub>	t	t T	t <sub>s</sub>	Ī

DATA OF DISTANCE OF TRAVEL OF DESIGNATED POSITION

ò

14503

TRAVEL OF POINT B'	0000	0.825	1.649	2.474	4.123
TRAVEL OF POINT A'	0.000	0.825	1.649	2.474	4.123
TRAVEL OF POINT B	0.000	0.283	0.566	0.849	1.131
TRAVEL OF POINT A	0.000	0.283	0.566	0.849	1.414
TRAVEL OF POINT S	0	0	0	0	0
	$t_1$	t2	t3	t4	ts

FIG. 1456

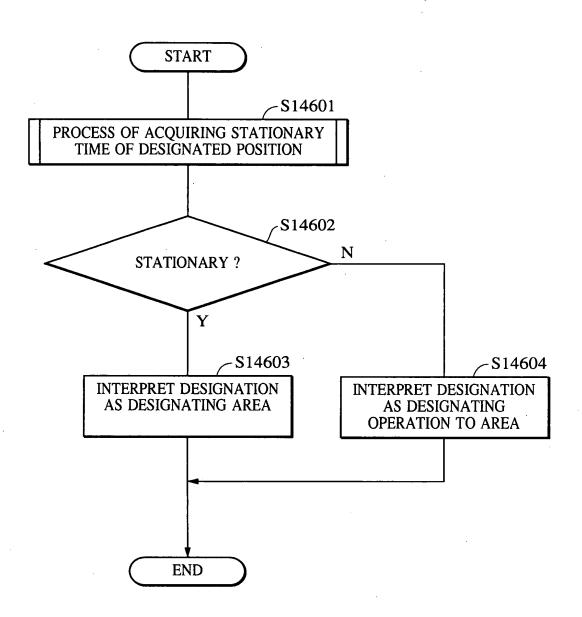


FIG. 146

DESIGNATING AREA

DESIGNATED POSITION POINT At<sub>1</sub>

DESIGNATED POSITION POINT Bt 1

TIME t<sub>1</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base. The plurality of kinds of information used as elem t to be generated is selcted from the inpu on and the retrieved information relating ther uently, a describing order, in which the sele s of the text are described, is determined. T be output is generated on the basis of ements of the text and the determined descri

FIG. 147A

DESIGNATED POSITION POINT Ats

DESIGNATED POSITION POINT Bt 5

TIME t<sub>5</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge b a plurality of kinds of information used as elei xt to be generated is selcted from the inp ion and the retrieved information relating the quently, a describing order, in which the se nts of the text are described, is determined. o be output is generated on the basis of elements of the text and the determined des

FIG. 147B

DESIGNATED POSITIONS
POINTS At<sub>1</sub>~t<sub>5</sub> (3, 3)

FIG. 148A

DESIGNATED POSITIONS
POINTS Bt<sub>1</sub>~t<sub>5</sub> (4, 4)

DESIGNATED FIXED POSITION POSITION DATA OF POINT A

	Ax	Ay
$t_1$	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0
t <sub>4</sub>	3.0	3.0
t <sub>5</sub>	3.0	3.0
	, .	

FIG. 148B

DESIGNATED FIXED POSITION POSITION DATA OF POINT B

	$B_{\mathbf{x}}$	$\mathbf{B}_{\mathbf{Y}}$
$t_1$	4.0	4.0
t <sub>2</sub>	4.0	4.0
t <sub>3</sub>	4.0	4.0
t <sub>4</sub>	4.0	4.0
t <sub>5</sub>	4.0	4.0

FIG. 148C

DATA OF TRAVEL OF DESIGNATED POSITION

TRAVEL OF POINT A	TRAVEL OF POINT B
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
0.000	0.000
	0.000 0.000 0.000 0.000

FIG. 148D

14802

14803





## **EXPANSION OPERATION**

DESIGNATED POSITION POINT Ats

DESIGNATED POSITION POINT Bt 5

TIME t<sub>5</sub>

In a system for preparing a text by using a knowledge base, knowledge relating to input information is first retrieved from the knowledge base plurality of kinds of information used as elem t to be generated is selcted from the inpu on and the retrieved information relating ther uently, a describing order, in which the sele s of the text are described, is determined. be output is generated on the basis of ements of the text and the determined desc

FIG. 149A

14901

## DESIGNATED POSITION POINT At<sub>6</sub>

DESIGNATED POSITION POINT Bt<sub>6</sub>

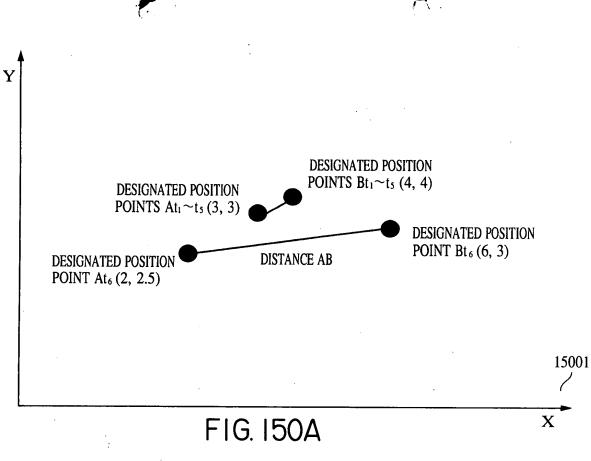
In a system for preparing a text by using a knowledge base, knowledge relating to input information is first

TIME t<sub>6</sub>

retrieved from the knowledge ba plurality of kinds of information as element to be generated is selcted from the t informa hd the retrieved information relating Subseq . a describing order, in which the selection ments text are described, is determined. Then, is generated on the basis of the selecte text and the determineddescribing order

14902

FIG. 149B



DE	ESIGNATED
M	OVING POSITION
PC	SITION DATA
OF	POINT A

	Ax	Ay
$t_1$	3.0	3.0
t <sub>2</sub>	3.0	3.0
t <sub>3</sub>	3.0	3.0
t <sub>4</sub>	3.0	3.0
t <sub>5</sub>	2.0	2.5

FIG. 150B

DESIGNATED POSITION POSITION DATA OF POINT B

15002

15003

	$B_{x}$	$\mathbf{B}_{\mathbf{Y}}$
$t_1$	4.0	4.0
t <sub>2</sub>	4.0	4.0
t <sub>3</sub>	4.0	4.0
t <sub>4</sub>	4.0	4.0
t <sub>5</sub>	6.0	3.0

FIG. 150C

## DATA OF TRAVEL OF DESIGNATED POSITION

	TRAVEL OF POINT A	TRAVEL OF POINT B	DISTANCE AB	DISTANCE CHANGE RATE
$t_1$	0.000	0.000	1.414	100%
t <sub>2</sub>	0.000	0.000	1.414	100%
t <sub>3</sub>	0.000	0.000	1.414	100%
t <sub>4</sub>	0.000	0.000	1.414	100%
t <sub>5</sub>	1.118	2.236	4.031	285%

FIG. 150D